

APPENDIX

API Class Library

ActionEngine.Api Namespace

Namespace hierarchy

Classes

	Description
Class	This class represents a street address.
Address	This class represents a collection of Address objects.
Addresses	
AnswersResponse	This class is a container for one or more results as well as auxiliary data.
BinaryResource	This class represents a binary resource.
BooleanResponse	This class represents a Boolean (true or false) response.
ClientInfo	This class represents information about the client making the request.
CodeResponse	This class represents a numeric code response.
Concepts	This class represents concepts.
ConceptsResponse	This class represents a concepts response.
ConceptValues	This class represents the values posted by the client as a result of submitting concepts to the server.
ConfigFile	This class represents an XML configuration file for a plugin.
CreditCard	This class represents a credit card.
CreditCards	This class represents a collection of CreditCard objects.
DeckResponse	This class represents an HTML deck response, which is displayed as rich markup on the client.
Device	This class represents a client device.
Devices	This class represents a set of client devices.
Email	This class represents an e-mail address.
Emails	This class represents a collection of Email objects.
FriendlyData	This is the base class for various user data classes that have friendly names.
FriendlyDataSet	This is the base class for various collections of user data that have friendly names.
FriendlyPair	This class represents a pairing of a friendly name with a FriendlyData object.
HealthResponse	This class represents a response to report on the health of a module.
Identity	This class represents a person's name broken out into first name, last name, etc.
ImageResource	This class represents an image (graphic) resource.
InfoRequest	This class represents the XML content returned by an IServiceInfo instance in response to GetInfoRequest.
InfoRequestResponse	This class represents an "info request" response, which is returned by GetInfoRequest.
InfoResponse	This class represents an info response (sometimes called an "action info" response).

Message	This class represents a message.
MessageResponse	This class represents a message response.
Phone	This class represents a phone number.
Phones	This class represents a collection of Phone objects.
PluginEnvironment	This class represents various aspects of a plugin's environment.
RequestProcessor	This class is for internal use only.
Resource	This is the base class for all types of resources.
ResourceReference	This class represents a resource reference, which is a description or "pointer" to an actual resource.
ResourcesResponse	This class represents a response of zero or more resources.
Response	This is the base class for various responses sent to the engine.
Result	This class represents a result for managing state in your plugin as well as providing input to various XSLT transformations.
SupportedAuthDataResponse	This class represents the categories of data supported by the authentication plugin.
ThreadStorage	This class manages framework-related storage for the current thread, and provides a way to spawn new threads while passing along the parent's thread storage.
Tracer	This class is used to add trace information to the response sent to the engine.
User	This class represents an end user of the framework.
UserDataResponse	This class represents a user data response.
UserDocument	This class provides functionality for processing user documents.
UserDocumentException	This exception class relates to the processing of user documents.
UserName	This class represents a user name.

Interfaces

Interface	Description
IAuthHandler	This interface represents a user authentication handler, which can do custom authorization handling as well as taking ownership of various categories of user data.
IHealth	!@#
IModule	This interface represents a module, which is the base interface for IAuthHandler and IService but can also represent a module on its own.
IService	This interface represents a service plugin, which processes requests and generally returns solutions to a client for viewing by the end user.
IServiceInfo	This interface represents "info" related functionality (sometimes called "action info") for a service.

Delegates

Delegate	Description
DieHandler	This delegate is used for sending "die" events.

Enumerations

	Description
Enumeration	
CodeResponse.Code	The enumeration of valid codes.
CreditCard.Type	The enumeration of valid credit card types.
HealthResponse.Status	The enumeration of health statuses.
InfoRequest.Command	The enumeration of valid primary commands associated with GetInfoRequest.
Message.Severity	The enumeration of message severities.
Phone.Type	The enumeration of valid phone types.
Resource.Type	The enumeration of valid resource types.
ResourceReference.Priority	The enumeration of resource fetching priorities.
ResourceReference.Protocol	The enumeration of resource fetching protocols.
SupportedAuthDataResponse.Data	The enumeration of valid data categories.
Tracer.Level	The enumeration of valid trace levels.
UserDocumentException.Code	The enumeration of error codes related to this exception.

API Class Library

Address Class

This class represents a street address.

For a list of all members of this type, see Address Members.

System.Object

FriendlyData

Address

public class Address : FriendlyData

Requirements

Namespace: ActionEngine.Api

Assembly: aefwapi (in aefwapi.dll)

See Also

[Address Members](#) | [ActionEngine.Api Namespace](#) | [Addresses](#)

API Class Library

Address Members

[Address overview](#)

Public Instance Constructors

Address Constructor

This constructs an empty Address.

Public Instance Properties

City	The city.
Company	The company.
Country	The country.
CountyDistReg	The county, district, or region.
FriendlyName (inherited from FriendlyData)	The friendly name of the user data.
Lat	The latitude.
Lon	The longitude.
PoBox	The post office box.
PostalCode	The postal code (or "zip code" in the United States).

StateProv	The state or province.
Street1	The first line of the street address.
Street2	The second line of the street address.
Street3	The third line of the street address.

Public Instance Methods

Equals (inherited from Object)	Determines whether the specified Object is equal to the current Object.
GetHashCode (inherited from Object)	Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.
GetType (inherited from Object)	Gets the Type of the current instance.
ToString	This returns an XML representation of the address.

Protected Instance Methods

Finalize (inherited from Object)	Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.
MemberwiseClone (inherited from Object)	Creates a shallow copy of the current Object.

See Also

[Address Class](#) | [ActionEngine.Api Namespace](#) | [Addresses](#)

[API Class Library](#)

Address Constructor

This constructs an empty Address.

```
public Address(  
    string friendlyName  
)
```

Parameters

friendlyName

The friendly name of the address.

Remarks

This constructs an empty address. All address members are initialized to the empty string, and the latitude and longitude are assigned the minimum float values.

See Also

[Address Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

Address Properties

The properties of the **Address** class are listed below. For a complete list of **Address** class members, see the [Address Members](#) topic.

Public Instance Properties

City	The city.
Company	The company.
Country	The country.
CountyDistReg	The county, district, or region.
FriendlyName (inherited from FriendlyData)	The friendly name of the user data.
Lat	The latitude.

Lon	The longitude.
PoBox	The post office box.
PostalCode	The postal code (or "zip code" in the United States).
StateProv	The state or province.
Street1	The first line of the street address.
Street2	The second line of the street address.
Street3	The third line of the street address.

See Also

[Address Class](#) | [ActionEngine.Api Namespace](#) | [Addresses](#)

[API Class Library](#)

Address.City Property

The city.

public string City {get; set;}

See Also

[Address Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

Address.Company Property

The company.

public string Company {get; set;}

See Also

[Address Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

Address.Country Property

The country.

public string Country {get; set;}

See Also

[Address Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

Address.CountyDistReg Property

The county, district, or region.

public string CountyDistReg {get; set;}

See Also

[Address Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

Address.Lat Property

The latitude.

public float Lat {get; set;}

Remarks

The latitude. Valid values are -90 <= x <= 90.

Exceptions

Exception Type

ArgumentException

Condition

This is thrown when setting the latitude to an invalid

value.

See Also

[Address Class | ActionEngine.Api Namespace](#)

[API Class Library](#)

Address.Lon Property

The longitude.

public float Lon {get; set;}

Remarks

The longitude. Valid values are -180 <= x <= 180.

Exceptions

Exception Type

ArgumentException

Condition

This is thrown when setting the longitude to an invalid value.

See Also

[Address Class | ActionEngine.Api Namespace](#)

[API Class Library](#)

Address.PoBox Property

The post office box.

public string PoBox {get; set;}

See Also

[Address Class | ActionEngine.Api Namespace](#)

[API Class Library](#)

Address.PostalCode Property

The postal code (or "zip code" in the United States).

public string PostalCode {get; set;}

See Also

[Address Class | ActionEngine.Api Namespace](#)

[API Class Library](#)

Address.StateProv Property

The state or province.

public string StateProv {get; set;}

See Also

[Address Class | ActionEngine.Api Namespace](#)

[API Class Library](#)

Address.Street1 Property

The first line of the street address.

public string Street1 {get; set;}

See Also

[Address Class | ActionEngine.Api Namespace](#)

[API Class Library](#)

Addr ss.Street2 Pr perty

The second line of the street address.

public string Street2 {get; set;}

See Also

[Address Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

Address.Street3 Property

The third line of the street address.

public string Street3 {get; set;}

See Also

[Address Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

Address Methods

The methods of the **Address** class are listed below. For a complete list of **Address** class members, see the [Address Members](#) topic.

Public Instance Methods

Equals (inherited from Object)

Determines whether the specified Object is equal to the current Object.

GetHashCode (inherited from Object)

Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.

GetType (inherited from Object)

Gets the Type of the current instance.

ToString

This returns an XML representation of the address.

Protected Instance Methods

Finalize (inherited from Object)

Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.

MemberwiseClone (inherited from Object)

Creates a shallow copy of the current Object.

See Also

[Address Class](#) | [ActionEngine.Api Namespace](#) | [Addresses](#)

[API Class Library](#)

Address.ToString Method

This returns an XML representation of the address.

public override string ToString();

Return Value

An XML representation of the address.

See Also

[Address Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

Addresses Class

This class represents a collection of Address objects.

For a list of all members of this type, see Addresses Members.

System.Object

FriendlyDataSet

Addresses

public class Addresses : FriendlyDataSet

Requirements

Namespace: ActionEngine.Api

Assembly: aefwapi (in aefwapi.dll)

See Also

[Addresses Members](#) | [ActionEngine.Api Namespace](#) | [Address](#)

[API Class Library](#)

Addresses Members

[Addresses overview](#)

Public Instance Constructors

Addresses Constructor

This constructs an empty collection of addresses.

Public Instance Properties

GetPrimary
Item

This retrieves the primary address of the collection.
This retrieves an address by the given friendly name.

Public Instance Methods

Add
Equals (inherited from Object)

This adds an address to the collection.
Determines whether the specified Object is equal to the current Object.

GetEnumerator (inherited from FriendlyDataSet)

This returns an IEnumerator for enumerating the collection of friendly data.

GetHashCode (inherited from Object)

Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.

GetType (inherited from Object)
Remove

Gets the Type of the current instance.

This removes the address with the given friendly name.

SetPrimary (inherited from FriendlyDataSet)
ToString (inherited from FriendlyDataSet)

This sets the primary friendly data for the collection.
This returns an XML representation of the friendly data set.

Protected Instance Methods

Finalize (inherited from Object)

Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.

Creates a shallow copy of the current Object.

See Also

[Addresses Class](#) | [ActionEngine.Api Namespace](#) | [Address](#)

[API Class Library](#)

Addresses Constructor

This constructs an empty collection of addresses.

public Addresses();

See Also

[Addresses Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

Addresses Properties

The properties of the **Addresses** class are listed below. For a complete list of **Addresses** class members, see the [Addresses Members](#) topic.

Public Instance Properties

GetPrimary

Item

This retrieves the primary address of the collection.
This retrieves an address by the given friendly name.

See Also

[Addresses Class](#) | [ActionEngine.Api Namespace](#) | [Address](#)

[API Class Library](#)

Addresses.GetPrimary Property

This retrieves the primary address of the collection.

public Address GetPrimary {get;}

Remarks

This retrieves the primary address of the collection. If the collection is empty, null is returned.

See Also

[Addresses Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

Addresses.Item Property

This retrieves an address by the given friendly name.

public Address this[

 string friendlyName

] {get;}

Remarks

This retrieves an address by the given friendly name. If none is found, null is returned.

See Also

[Addresses Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

Addresses Methods

The methods of the **Addresses** class are listed below. For a complete list of **Addresses** class members, see the [Addresses Members](#) topic.

Public Instance Methods

Add

Equals (inherited from Object)

This adds an address to the collection.

Determines whether the specified Object is equal to the current Object.

GetEnumerator (inherited from FriendlyDataSet)

This returns an IEnumator for enumerating the collection of friendly data.

GetHashCode (inherited from Object)	Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.
GetType (inherited from Object)	Gets the Type of the current instance.
Remove	This removes the address with the given friendly name.
SetPrimary (inherited from FriendlyDataSet) ToString (inherited from FriendlyDataSet)	This sets the primary friendly data for the collection. This returns an XML representation of the friendly data set.

Protected Instance Methods

Finalize (inherited from Object)	Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.
MemberwiseClone (inherited from Object)	Creates a shallow copy of the current Object.

See Also

[Addresses Class](#) | [ActionEngine.Api Namespace](#) | [Address](#)

[API Class Library](#)

Addresses.Add Method

This adds an address to the collection.

```
public void Add(  
    Address address  
)
```

Parameters

address

The address to add to the collection.

See Also

[Addresses Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

Addresses.Remove Method

This removes the address with the given friendly name.

```
public Address Remove(  
    string friendlyName  
)
```

Parameters

friendlyName

The friendly name of the address to remove.

Return Value

The address removed is returned, or null if not found.

Remarks

This removes the address with the given friendly name. If the address is not found, no action is taken. If the address removed was primary, a new one is selected.

See Also

[Addresses Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

AnswersResponse Class

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This class is a container for one or more results as well as auxiliary data.
For a list of all members of this type, see [AnswersResponse Members](#).

System.Object

Response

AnswersResponse

public class AnswersResponse : Response

Remarks

This class is a container for one or more results as well as auxiliary data. In the future, other items besides a result may be added to an "answer."

Requirements

Namespace: ActionEngine.Api

Assembly: aefwapi (in aefwapi.dll)

See Also

[AnswersResponse Members](#) | [ActionEngine.Api Namespace](#) | [Result](#)

[API Class Library](#)

AnswersResponse Members

[AnswersResponse overview](#)

Public Instance Constructors

[AnswersResponse](#)

Overloaded. Initializes a new instance of the [AnswersResponse](#) class.

Public Instance Methods

[AddLogOnAs](#)

This adds a user name and password to the response. When the client encounters this information, it will behave as if the user signed on himself.

[AddMessage](#)

This adds a message to the response. Messages are generally displayed on the client as a pop-up dialog.

[AppendResult](#)

This appends a result to the collection.

[Equals \(inherited from Object\)](#)

Determines whether the specified Object is equal to the current Object.

[GetHashCode \(inherited from Object\)](#)

Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.

[GetType \(inherited from Object\)](#)

Gets the Type of the current instance.

[ToString \(inherited from Response\)](#)

This returns an XML representation of the response.

Protected Instance Methods

[Finalize \(inherited from Object\)](#)

Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.

[MemberwiseClone \(inherited from Object\)](#)

Creates a shallow copy of the current Object.

See Also

[AnswersResponse Class](#) | [ActionEngine.Api Namespace](#) | [Result](#)

[API Class Library](#)

AnswersResponse Constructor

This constructs a response with a single result.

Overload List

This constructs a response with a single result.

```
public AnswersResponse(Result);
```

This constructs a response with one or more results.

```
public AnswersResponse(Result[]);
```

See Also

[AnswersResponse Class | ActionEngine.Api Namespace](#)

[API Class Library](#)

AnswersResponse Constructor (Result)

This constructs a response with a single result.

```
public AnswersResponse(
```

```
    Result result
```

```
);
```

Parameters

```
result
```

The result, which cannot be null.

See Also

[AnswersResponse Class | ActionEngine.Api Namespace](#) | [AnswersResponse Constructor Overload List](#)

[API Class Library](#)

AnswersResponse Constructor (Result[])

This constructs a response with one or more results.

```
public AnswersResponse(
```

```
    Result[] results
```

```
);
```

Parameters

```
results
```

The results, which cannot be null or zero in length.

See Also

[AnswersResponse Class | ActionEngine.Api Namespace](#) | [AnswersResponse Constructor Overload List](#)

[API Class Library](#)

AnswersResponse Methods

The methods of the **AnswersResponse** class are listed below. For a complete list of **AnswersResponse** class members, see the [AnswersResponse Members](#) topic.

Public Instance Methods

AddLogOnAs

This adds a user name and password to the response. When the client encounters this information, it will behave as if the user signed on himself.

AddMessage

This adds a message to the response. Messages are generally displayed on the client as a pop-up dialog.

AppendResult

This appends a result to the collection.

Equals (inherited from Object)

Determines whether the specified Object is equal to the current Object.

GetHashCode (inherited from **Object**)

Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.

GetType (inherited from **Object**)

Gets the Type of the current instance.

ToString (inherited from **Response**)

This returns an XML representation of the response.

Protected Instance Methods

Finalize (inherited from **Object**)

Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.

MemberwiseClone (inherited from **Object**)

Creates a shallow copy of the current Object.

See Also

[AnswersResponse Class](#) | [ActionEngine.Api Namespace](#) | [Result](#)

API Class Library

AnswersResponse.AddLogOnAs Method

This adds a user name and password to the response. When the client encounters this information, it will behave as if the user signed on himself.

```
public void AddLogOnAs(  
    UserName userName,  
    string password  
)
```

Parameters

userName

The user name to log on as.

password

The user's password.

See Also

[AnswersResponse Class](#) | [ActionEngine.Api Namespace](#)

API Class Library

AnswersResponse.AddMessage Method

This adds a message to the response. Messages are generally displayed on the client as a pop-up dialog.

```
public void AddMessage(  
    Message message  
)
```

Parameters

message

The message to add.

See Also

[AnswersResponse Class](#) | [ActionEngine.Api Namespace](#)

API Class Library

AnswersResponse.AppendResult Method

This appends a result to the collection.

```
public void AppendResult(  
    Result result
```

);

Parameters

result

The result to append.

See Also

[AnswersResponse Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

BinaryResource Class

This class represents a binary resource.

For a list of all members of this type, see [BinaryResource Members](#).

[System.Object](#)

Resource

BinaryResource

public class BinaryResource : Resource

Requirements

Namespace: ActionEngine.Api

Assembly: aefwapi (in aefwapi.dll)

See Also

[BinaryResource Members](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

BinaryResource Members

[BinaryResource overview](#)

Public Instance Constructors

[BinaryResource Constructor](#)

This constructs a binary resource.

Public Instance Methods

[Equals \(inherited from Object\)](#)

Determines whether the specified Object is equal to the current Object.

[GetHashCode \(inherited from Object\)](#)

Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.

[GetType \(inherited from Object\)](#)

Gets the Type of the current instance.

[ToString \(inherited from Resource\)](#)

This returns an XML representation of the resource.

Protected Instance Methods

[Finalize \(inherited from Object\)](#)

Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.

[MemberwiseClone \(inherited from Object\)](#)

Creates a shallow copy of the current Object.

See Also

[BinaryResource Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

BinaryResource Constructor

This constructs a binary resource.

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```
public BinaryResource(  
    ResourceReference resourceReference,  
    byte[] bytes  
)
```

Parameters

resourceReference

The original reference to the binary data.

bytes

The binary data.

See Also

[BinaryResource Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

BooleanResponse Class

This class represents a Boolean (true or false) response.

For a list of all members of this type, see [BooleanResponse Members](#).

[System.Object](#)

[Response](#)

BooleanResponse

public class BooleanResponse : Response

Requirements

Namespace: ActionEngine.Api

Assembly: aefwapi (in aefwapi.dll)

See Also

[BooleanResponse Members](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

BooleanResponse Members

[BooleanResponse overview](#)

Public Instance Constructors

[BooleanResponse Constructor](#)

This constructs a Boolean response.

Public Instance Methods

[Equals \(inherited from Object\)](#)

Determines whether the specified Object is equal to the current Object.

[GetHashCode \(inherited from Object\)](#)

Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.

[GetType \(inherited from Object\)](#)

Gets the Type of the current instance.

[ToString \(inherited from Response\)](#)

This returns an XML representation of the response.

Protected Instance Methods

[Finalize \(inherited from Object\)](#)

Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.

[MemberwiseClone \(inherited from Object\)](#)

Creates a shallow copy of the current Object.

See Also

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SEA/109927/135179/AKP/317034.1

BooleanResponse Class | ActionEngine.Api Namespace

API Class Library

BooleanResponse Constructor

This constructs a Boolean response.

```
public BooleanResponse(  
    bool boolean  
)
```

Parameters

boolean

The Boolean value.

See Also

[BooleanResponse Class | ActionEngine.Api Namespace](#)

API Class Library

ClientInfo Class

This class represents information about the client making the request.

For a list of all members of this type, see [ClientInfo Members](#).

[System.Object](#)

ClientInfo

public class ClientInfo

Requirements

Namespace: ActionEngine.Api

Assembly: aefwapi (in aefwapi.dll)

See Also

[ClientInfo Members | ActionEngine.Api Namespace](#)

API Class Library

ClientInfo Members

[ClientInfo overview](#)

Public Instance Properties

CultureInfo

The culture info associated with the client request.

Pack

The pack ID associated with the client request.

Public Instance Methods

[Equals \(inherited from Object\)](#)

Determines whether the specified Object is equal to the current Object.

[GetHashCode \(inherited from Object\)](#)

Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.

[GetType \(inherited from Object\)](#)

Gets the Type of the current instance.

[ToString \(inherited from Object\)](#)

Returns a String that represents the current Object.

Protected Instance Methods

[Finalize \(inherited from Object\)](#)

Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.

Creates a shallow copy of the current Object.

[MemberwiseClone \(inherited from Object\)](#)

See Also

[ClientInfo Class | ActionEngine.Api Namespace](#)

[API Class Library](#)

ClientInfo Properties

The properties of the **ClientInfo** class are listed below. For a complete list of **ClientInfo** class members, see the [ClientInfo Members](#) topic.

Public Instance Properties

CultureInfo

Pack

The culture info associated with the client request.

The pack ID associated with the client request.

See Also

[ClientInfo Class | ActionEngine.Api Namespace](#)

[API Class Library](#)

ClientInfo.CultureInfo Property

The culture info associated with the client request.

public System.Globalization.CultureInfo CultureInfo {get;}

See Also

[ClientInfo Class | ActionEngine.Api Namespace](#)

[API Class Library](#)

ClientInfo.Pack Property

The pack ID associated with the client request.

public string Pack {get;}

Remarks

A pack is a group of related applications and primarily serves as a way to visually organize the client's user interface.

See Also

[ClientInfo Class | ActionEngine.Api Namespace](#)

[API Class Library](#)

CodeResponse Class

This class represents a numeric code response.

For a list of all members of this type, see [CodeResponse Members](#).

System.Object

Response

CodeResponse

public class CodeResponse : Response

Requirements

Namespace: ActionEngine.Api

Assembly: aefwapi (in aefwapi.dll)

See Also

[CodeResponse Members | ActionEngine.Api Namespace](#)

[API Class Library](#)

C deResp nse Members

CodeResponse overview

Public Instance Constructors

CodeResponse

Overloaded. Initializes a new instance of the CodeResponse class.

Public Instance Methods

AddData

This adds data, such as a message argument, to the response.

Equals (inherited from Object)

Determines whether the specified Object is equal to the current Object.

GetHashCode (inherited from Object)

Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.

GetType (inherited from Object)

Gets the Type of the current instance.

ToString (inherited from Response)

This returns an XML representation of the response.

Protected Instance Methods

Finalize (inherited from Object)

Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.

MemberwiseClone (inherited from Object)

Creates a shallow copy of the current Object.

See Also

[CodeResponse Class](#) | [ActionEngine.Api Namespace](#)

API Class Library

CodeResponse Constructor

This constructs a new code response.

Overload List

This constructs a new code response.

`public CodeResponse(Code);`

This constructs a new code response and allows the default message text associated with the code to be overridden.

`public CodeResponse(Code,string);`

See Also

[CodeResponse Class](#) | [ActionEngine.Api Namespace](#)

API Class Library

CodeResponse Constructor (Code)

This constructs a new code response.

```
public CodeResponse(  
    Code code  
)
```

Parameters

`code`

The code.

See Also

[CodeResponse Class](#) | [ActionEngine.Api Namespace](#) | [CodeResponse Constructor Overload List](#)

API Class Library

CodeResponse Constructor (Code, String)

This constructs a new code response and allows the default message text associated with the code to be overridden.

```
public CodeResponse(  
    Code code,  
    string text  
)
```

Parameters

code

The code.

text

The overridden message text. If no override is desired, pass null.

See Also

[CodeResponse Class](#) | [ActionEngine.Api Namespace](#) | [CodeResponse Constructor Overload List](#)

API Class Library

CodeResponse Methods

The methods of the **CodeResponse** class are listed below. For a complete list of **CodeResponse** class members, see the [CodeResponse Members](#) topic.

Public Instance Methods

[AddData](#)

This adds data, such as a message argument, to the response.

[Equals \(inherited from Object\)](#)

Determines whether the specified Object is equal to the current Object.

[GetHashCode \(inherited from Object\)](#)

Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.

[GetType \(inherited from Object\)](#)

Gets the Type of the current instance.

[ToString \(inherited from Response\)](#)

This returns an XML representation of the response.

Protected Instance Methods

[Finalize \(inherited from Object\)](#)

Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.

[MemberwiseClone \(inherited from Object\)](#)

Creates a shallow copy of the current Object.

See Also

[CodeResponse Class](#) | [ActionEngine.Api Namespace](#)

API Class Library

CodeResponse.AddData Method

This adds data, such as a message argument, to the response.

```
public void AddData(  
    string data  
)
```

Parameters

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data

The data to add, which cannot be null.

Remarks

This adds data, such as a message argument, to the response. Some codes require one or more arguments to be provided. For example, if the message text associated with a code is "My name is {0}{1}", calling AddData("Joe") followed by AddData("Blo") will cause the message to appear as "My name is Joe Blo" when expanded by the framework.

See Also

[CodeResponse Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

CodeResponse.Code Enumeration

The enumeration of valid codes.

public enum CodeResponse.Code

Remarks

The enumeration of valid codes.

Most address-related values have "1" and "2" varieties. These are broken down so that, during sign-up validation, if the user enters two addresses, the plugin can indicate to the engine in the reply which of the two addresses had the problem. The engine then directs the user to the right address to correct.

Members

Member Name	Description
S_OK	The action taken was successful.
E_FAIL	An error occurred.
E_LOGON_FAILED	The user name or password is incorrect.
E_NOT_IMPL	The functionality is not implemented.
E_USER_DOESNT_EXIST	The user does not exist.
E_ADDR1_CITY_MISSING	In address 1 the city is missing.
E_ADDR2_CITY_MISSING	In address 2 the city is missing.
E_ADDR1_CITY_TOO_LONG	In address 1 the city is too long.
E_ADDR2_CITY_TOO_LONG	In address 2 the city is too long.
E_ADDR1_COUNTRY_BAD	In address 1 the country is invalid.
E_ADDR2_COUNTRY_BAD	In address 2 the country is invalid.
E_ADDR1_COUNTRY_MISSING	In address 1 the country is missing.
E_ADDR2_COUNTRY_MISSING	In address 2 the country is missing.
E_ADDR1_COUNTRY_TOO_LONG	In address 1 the country is too long.
E_ADDR2_COUNTRY_TOO_LONG	In address 2 the country is too long.
E_ADDR1_FRIENDLY_MISSING	In address 1 the friendly name is missing.
E_ADDR2_FRIENDLY_MISSING	In address 2 the friendly name is missing.
E_ADDR1_FRIENDLY_TOO_LONG	In address 1 the friendly name is too long.
E_ADDR2_FRIENDLY_TOO_LONG	In address 2 the friendly name is too long.
E_ADDR1_PO_BOX_TOO_LONG	In address 1 the post office box is too long.
E_ADDR2_PO_BOX_TOO_LONG	In address 2 the post office box is too long.
E_ADDR1_POSTAL_BAD_LEN_USA	In address 1 the postal code has an invalid length for a United States address.
E_ADDR2_POSTAL_BAD_LEN_USA	In address 2 the postal code has an invalid length for a United States address.
E_ADDR1_POSTAL_MISSING	In address 1 the postal code is missing.
E_ADDR2_POSTAL_MISSING	In address 2 the postal code is missing.
E_ADDR1_POSTAL_TOO_LONG	In address 1 the postal code is too long.
E_ADDR2_POSTAL_TOO_LONG	In address 2 the postal code is too long.
E_ADDR1_REGION_TOO_LONG	In address 1 the county/district/region is too long.
E_ADDR2_REGION_TOO_LONG	In address 2 the county/district/region is too long.

E_ADDR1_STATE_PROV_BAD	In address 1 the state/province is invalid.
E_ADDR2_STATE_PROV_BAD	In address 2 the state/province is invalid.
E_ADDR1_STATE_PROV_MISSING	In address 1 the state/province is missing.
E_ADDR2_STATE_PROV_MISSING	In address 2 the state/province is missing.
E_ADDR1_STATE_PROV_TOO_LONG	In address 1 the state/province is too long.
E_ADDR2_STATE_PROV_TOO_LONG	In address 2 the state/province is too long.
E_ADDR1_STREET_MISSING	In address 1 the street is missing.
E_ADDR2_STREET_MISSING	In address 2 the street is missing.
E_ADDR1_STREET_TOO_LONG	In address 1 the street is too long.
E_ADDR2_STREET_TOO_LONG	In address 2 the street is too long.
E_ADDR_DOESNT_EXIST	The address does not exist.
E_ADDR_TAKEN	The address already exists.
E_ADDR_USED_BY_CARD	The address is referenced by a credit card and, therefore, cannot be deleted.
E_CARD_ADDRESS_MISSING	The credit card's address is missing.
E_CARD_DOESNT_EXIST	The credit card does not exist.
E_CARD_EXPIRED	The credit card's expiration date has passed.
E_CARD_FRIENDLY_MISSING	The credit card's friendly name is missing.
E_CARD_FRIENDLY_TOO_LONG	The credit card's friendly name is too long.
E_CARD_MONTH_BAD	The credit card's expiration month is invalid.
E_CARD_MONTH_MISSING	The credit card's expiration month is missing.
E_CARD_NUMBER_BAD	The credit card number is invalid.
E_CARD_NUMBER_MISSING	The credit card number is missing.
E_CARD_PERSONS_NAME_MISSING	The person's name on the credit card is missing.
E_CARD_PERSONS_NAME_TOO_LONG	The person's name on the credit card is too long.
E_CARD_TAKEN	The credit card already exists.
E_CARD_TYPE_UNKNOWN	The credit card type is not recognized.
E_CARD_YEAR_BAD	The credit card's expiration year is invalid.
E_CARD_YEAR_MISSING	The credit card's expiration year is missing.
E_EMAIL_ADDR_BAD	The e-mail address is invalid.
E_EMAIL_ADDR_MISSING	The e-mail address is missing.
E_EMAIL_ADDR_TOO_LONG	The e-mail address is too long.
E_EMAIL_DOESNT_EXIST	The e-mail address by the given friendly name does not exist.
E_EMAIL_FRIENDLY_MISSING	The e-mail address's friendly name is missing.
E_EMAIL_FRIENDLY_TOO_LONG	The e-mail address's friendly name is too long.
E_EMAIL_TAKEN	The e-mail address by the given friendly name already exists.
E_IDENTITY_FIRST_MISSING	The first name is missing.
E_IDENTITY_FIRST_TOO_LONG	The first name is too long.
E_IDENTITY_LAST_MISSING	The last name is missing.
E_IDENTITY_LAST_TOO_LONG	The last name is too long.
E_IDENTITY_MIDDLE_MISSING	The middle name is missing.
E_IDENTITY_MIDDLE_TOO_LONG	The middle name is too long.
E_IDENTITY_SUFFIX_TOO_LONG	The person's suffix is too long.
E_IDENTITY_TITLE_TOO_LONG	The person's title is too long.
E_PASSWORD_BAD_CHARS	The password contains one or more invalid characters.
E_PASSWORD_CANT_CHANGE	The password cannot be changed.
E_PASSWORD_MISSING	The password is missing.
E_PASSWORD_TOO_LONG	The password is too long.
E_PASSWORD_TOO_SHORT	The password is too short.
E_PASSWORD_WRONG	The password is incorrect.
E_PHONE_DOESNT_EXIST	The phone entry does not exist.

E_PHONE_FRIENDLY_MISSING
E_PHONE_FRIENDLY_TOO_LONG
E_PHONE_NUMBER_MISSING
E_PHONE_NUMBER_TOO_LONG
E_PHONE_TAKEN

The phone number's friendly name is missing.
The phone number's friendly name is too long.
The phone entry's number is missing.
The phone number is too long.
The phone number by the given friendly name already exists.

E_USER_NAME_BAD_CHARS

The user name contains one or more invalid characters.

E_USER_NAME_DOESNT_EXIST
E_USER_NAME_FORBIDDEN
E_USER_NAME_MISSING
E_USER_NAME_TAKEN
E_USER_NAME_TOO_LONG
E_USER_NAME_TOO_SHORT

The user name doesn't exist.
The user name is forbidden.
The user name is missing.
The user name already exists.
The user name is too long.
The user name is too short.

Requirements

Namespace: ActionEngine.Api

Assembly: aefwapi (in aefwapi.dll)

See Also

ActionEngine.Api Namespace

API Class Library

Concepts Class

This class represents concepts.

For a list of all members of this type, see Concepts Members.

System.Object

Concepts

public class Concepts

Remarks

This class represents concepts. Concepts are processed by the client to collect data from the user and to post back to the server.

Requirements

Namespace: ActionEngine.Api

Assembly: aefwapi (in aefwapi.dll)

See Also

Concepts Members | ActionEngine.Api Namespace

API Class Library

Concepts Members

Concepts overview

Public Static Fields

ROOT_NAME

The name of the root element for any concepts XML.

Public Instance Constructors

Concepts

Overloaded. Initializes a new instance of the Concepts class.

Public Instance Methods

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Equals (inherited from Object)	Determines whether the specified Object is equal to the current Object.
GetHashCode (inherited from Object)	Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.
GetType (inherited from Object)	Gets the Type of the current instance.
ToString	This returns a string representation of the concepts XML.

Protected Instance Methods

Finalize (inherited from Object)	Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.
MemberwiseClone (inherited from Object)	Creates a shallow copy of the current Object.

See Also

[Concepts Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

Concepts Constructor

This constructs concepts from the given XML.

Overload List

This constructs concepts from the given XML.

public Concepts(string);

This constructs concepts from the given XML element.

public Concepts(XmlElement);

See Also

[Concepts Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

Concepts Constructor (String)

This constructs concepts from the given XML.

```
public Concepts(  
    string conceptsXml  
)
```

Parameters

conceptsXml

The concepts XML.

Exceptions

Exception Type

ApplicationException

Condition

This is thrown when the root element name doesn't match ROOT_NAME.

See Also

[Concepts Class](#) | [ActionEngine.Api Namespace](#) | [Concepts Constructor Overload List](#)

[API Class Library](#)

C ncepts C nstructor (XmlElement)

This constructs concepts from the given XML element.

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public Concepts(
 XmlElement conceptsRoot
);

Parameters

conceptsRoot

The root concepts element.

Remarks

This constructs concepts from the given XML element. The element must be named ROOT_NAME.

Exceptions

Exception Type

ApplicationException

Condition

This is thrown when the root element name doesn't match ROOT_NAME.

See Also

[Concepts Class](#) | [ActionEngine.Api Namespace](#) | [Concepts Constructor Overload List](#)

[API Class Library](#)

Concepts Fields

The fields of the **Concepts** class are listed below. For a complete list of **Concepts** class members, see the Concepts Members topic.

Public Static Fields

ROOT_NAME

The name of the root element for any concepts XML.

See Also

[Concepts Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

Concepts.ROOT_NAME Field

The name of the root element for any concepts XML.

public const string ROOT_NAME;

See Also

[Concepts Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

Concepts Methods

The methods of the **Concepts** class are listed below. For a complete list of **Concepts** class members, see the Concepts Members topic.

Public Instance Methods

Equals (inherited from Object)

Determines whether the specified Object is equal to the current Object.

GetHashCode (inherited from Object)

Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.

GetType (inherited from Object)

Gets the Type of the current instance.

ToString

This returns a string representation of the concepts XML.

Protected Instance Methods

Finalize (inherited from Object)	Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.
MemberwiseClone (inherited from Object)	Creates a shallow copy of the current Object.

See Also

[Concepts Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

Concepts.ToString Method

This returns a string representation of the concepts XML.

`public override string ToString();`

Return Value

A string representation of the concepts XML.

See Also

[Concepts Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

ConceptsResponse Class

This class represents a concepts response.

For a list of all members of this type, see [ConceptsResponse Members](#).

`System.Object`

`Response`

ConceptsResponse

`public class ConceptsResponse : Response`

Remarks

This class represents a concepts response. Concepts are processed by the client to collect data from the user and to post back to the server.

Requirements

Namespace: ActionEngine.Api

Assembly: aefwapi (in aefwapi.dll)

See Also

[ConceptsResponse Members](#) | [ActionEngine.Api Namespace](#) | [Concepts](#)

[API Class Library](#)

ConceptsResponse Members

[ConceptsResponse overview](#)

Public Instance Constructors

`ConceptsResponse`

Overloaded. Initializes a new instance of the ConceptsResponse class.

Public Instance Methods

`AddMessage`

This adds a message to the response.

`Equals (inherited from Object)`

Determines whether the specified Object is equal to the current Object.

`GetHashCode (inherited from Object)`

Serves as a hash function for a particular type, suitable for use in hashing algorithms and data

GetType (inherited from **Object**)
ToString (inherited from **Response**)

structures like a hash table.
Gets the Type of the current instance.
This returns an XML representation of the response.

Protected Instance Methods

Finalize (inherited from **Object**)

Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.

MemberwiseClone (inherited from **Object**)

Creates a shallow copy of the current Object.

See Also

[ConceptsResponse Class](#) | [ActionEngine.Api Namespace](#) | [Concepts](#)

[API Class Library](#)

ConceptsResponse Constructor

This constructs a concepts reseponse using the given concepts.

Overload List

This constructs a concepts reseponse using the given concepts.

public ConceptsResponse(Concepts);

This constructs a concepts reseponse using the given concepts and result.

public ConceptsResponse(Concepts,Result);

See Also

[ConceptsResponse Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

ConceptsResponse Constructor (Concepts)

This constructs a concepts reseponse using the given concepts.

public ConceptsResponse(

 Concepts *concepts*

);

Parameters

concepts

The concepts, which cannot be null.

See Also

[ConceptsResponse Class](#) | [ActionEngine.Api Namespace](#) | [ConceptsResponse Constructor Overload List](#)

[API Class Library](#)

ConceptsResponse Constructor (Concepts, Result)

This constructs a concepts reseponse using the given concepts and result.

public ConceptsResponse(

 Concepts *concepts*,

 Result *result*

);

Parameters

concepts

The concepts, which cannot be null.

result

The result to associated with the response. If null, an empty result is created.

Remarks

This constructs a concepts response using the given concepts and result. The result is passed back to the plugin when the client posts the concepts. It can be used to manage state.

See Also

[ConceptsResponse Class](#) | [ActionEngine.Api Namespace](#) | [ConceptsResponse Constructor Overload List](#)

[API Class Library](#)

ConceptsResponse Methods

The methods of the **ConceptsResponse** class are listed below. For a complete list of **ConceptsResponse** class members, see the [ConceptsResponse Members](#) topic.

Public Instance Methods

[AddMessage](#)

This adds a message to the response.

[Equals \(inherited from Object\)](#)

Determines whether the specified Object is equal to the current Object.

[GetHashCode \(inherited from Object\)](#)

Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.

[GetType \(inherited from Object\)](#)

Gets the Type of the current instance.

[ToString \(inherited from Response\)](#)

This returns an XML representation of the response.

Protected Instance Methods

[Finalize \(inherited from Object\)](#)

Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.

[MemberwiseClone \(inherited from Object\)](#)

Creates a shallow copy of the current Object.

See Also

[ConceptsResponse Class](#) | [ActionEngine.Api Namespace](#) | [Concepts](#)

[API Class Library](#)

ConceptsResponse.AddMessage Method

This adds a message to the response.

`public void AddMessage(`

Message message

`);`

Parameters

message

The message to add.

Remarks

This adds a message to the response. Messages are generally displayed on the client as a pop-up dialog.

See Also

[ConceptsResponse Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

ConceptValues Class

This class represents the values posted by the client as a result of submitting concepts to the server.

For a list of all members of this type, see [ConceptValues Members](#).

`System.Object`

C nceptValue s

public class ConceptValues

Requirements

Namespace: ActionEngine.Api

Assembly: aefwapi (in aefwapi.dll)

See Also

[ConceptValues Members](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

ConceptValues Members

[ConceptValues overview](#)

Public Instance Properties

RootElement

The root element of the concept values.

Version

The version of the concepts.

Public Instance Methods

[Equals \(inherited from Object\)](#)

Determines whether the specified Object is equal to the current Object.

[GetHashCode \(inherited from Object\)](#)

Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.

[GetType \(inherited from Object\)](#)

Gets the Type of the current instance.

[ToString \(inherited from Object\)](#)

Returns a String that represents the current Object.

Protected Instance Methods

[Finalize \(inherited from Object\)](#)

Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.

[MemberwiseClone \(inherited from Object\)](#)

Creates a shallow copy of the current Object.

See Also

[ConceptValues Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

ConceptValues Properties

The properties of the **ConceptValues** class are listed below. For a complete list of **ConceptValues** class members, see the [ConceptValues Members](#) topic.

Public Instance Properties

RootElement

The root element of the concept values.

Version

The version of the concepts.

See Also

[ConceptValues Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

C nceptValues.R ootElement Property

The root element of the concept values.

```
public System.Xml.XmlElement RootElement {get;}
```

See Also
[ConceptValues Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

ConceptValues.Version Property

The version of the concepts.

```
public string Version {get;}
```

See Also

[ConceptValues Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

ConfigFile Class

This class represents an XML configuration file for a plugin.

For a list of all members of this type, see [ConfigFile Members](#).

[System.Object](#)

ConfigFile

```
public class ConfigFile
```

Remarks

This class represents an XML configuration file for a plugin. It offers a convenient way of storing plugin-specific configuration values, provides a mechanism for managing machine-specific values, and ties into the framework's cache flushing system.

The name of the configuration file is config.xml and is stored in a plugin's cfg directory. There are no restrictions on the contents of the file, other than it be well-formed XML, and one small exception regarding the m attribute (see below).

The framework caches configuration files in memory until a flush command is issued. This is to optimize runtime performance.

Often when developing a plugin it is convenient to provide different configuration values depending on the machine (host) where the plugin is hosted. You can do this by attaching an m="...some machine..." attribute to any element. The machine name must be typed in lower-case. For example, a config.xml file may look like this:

```
<stuff>      <url>http://stuff/</url>      <url      m="server2">http://stuff/srv2/</url>      <url  
m="server5">http://stuff/srv5/</url> </stuff>
```

In this example, if your plugin called GetString("url") while running on server2, the value returned would be http://stuff/srv2/. If running on server99, the value returned would be http://stuff/ because no machine-specific override of the default is present.

Requirements

Namespace: ActionEngine.Api

Assembly: aefwapi (in aefwapi.dll)

See Also

[ConfigFile Members](#) | [ActionEngine.Api Namespace](#) | [PluginEnvironment](#)

[API Class Library](#)

ConfigFile Members

[ConfigFile overview](#)

Public Instance Properties

Exists

This returns whether or not a config.xml file exists for this plugin.

RootElement

This returns the root element of the configuration file.

Public Instance Methods

Equals (inherited from Object)	Determines whether the specified Object is equal to the current Object.
GetHashCode (inherited from Object)	Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.
GetString	Overloaded. This returns a string from the configuration file.
GetType (inherited from Object)	Gets the Type of the current instance.
SelectSingleNode	This returns an XmlNode from the configuration file.
ToString (inherited from Object)	Returns a String that represents the current Object.

Protected Instance Methods

Finalize (inherited from Object)	Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.
MemberwiseClone (inherited from Object)	Creates a shallow copy of the current Object.

See Also

[ConfigFile Class](#) | [ActionEngine.Api Namespace](#) | [PluginEnvironment](#)

[API Class Library](#)

ConfigFile Properties

The properties of the **ConfigFile** class are listed below. For a complete list of **ConfigFile** class members, see the [ConfigFile Members](#) topic.

Public Instance Properties

Exists	This returns whether or not a config.xml file exists for this plugin.
RootElement	This returns the root element of the configuration file.

See Also

[ConfigFile Class](#) | [ActionEngine.Api Namespace](#) | [PluginEnvironment](#)

[API Class Library](#)

ConfigFile.Exists Property

This returns whether or not a config.xml file exists for this plugin.

public bool Exists {get;}

See Also

[ConfigFile Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

ConfigFile.RootElement Property

This returns the root element of the configuration file.

public System.Xml.XmlElement RootElement {get;}

Remarks

This returns the root element of the configuration file. Generally direct access to this element is not

needed since GetString is more useful in that it takes into account machine-specific logic.

See Also

[ConfigFile Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

ConfigFile Methods

The methods of the **ConfigFile** class are listed below. For a complete list of **ConfigFile** class members, see the [ConfigFile Members](#) topic.

Public Instance Methods

[Equals \(inherited from Object\)](#)

Determines whether the specified Object is equal to the current Object.

[GetHashCode \(inherited from Object\)](#)

Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.

[GetString](#)

Overloaded. This returns a string from the configuration file.

[GetType \(inherited from Object\)](#)

Gets the Type of the current instance.

[SelectSingleNode](#)

This returns an XmlNode from the configuration file.

[ToString \(inherited from Object\)](#)

Returns a String that represents the current Object.

Protected Instance Methods

[Finalize \(inherited from Object\)](#)

Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.

[MemberwiseClone \(inherited from Object\)](#)

Creates a shallow copy of the current Object.

See Also

[ConfigFile Class](#) | [ActionEngine.Api Namespace](#) | [PluginEnvironment](#)

[API Class Library](#)

ConfigFile.GetString Method

This returns a string from the configuration file.

Overload List

This returns a string from the configuration file.

`public string GetString(string);`

This returns a string from the configuration file.

`public string GetString(string,string);`

See Also

[ConfigFile Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

ConfigFile.GetString Method (String)

This returns a string from the configuration file.

`public string GetString(`

`string xpath`

`);`

Parameters

`xpath`

The XPath relative to the root element.

Return Value

The string value, or null if not found, or null if the configuration file does not exist.

Remarks

This returns a string from the configuration file. This is equivalent to calling GetString(xpath, null). Machine-specific logic is taken into account when evaluating the XPath. See the class overview for more information.

Exceptions

Exception Type	Condition
XmlException	This is thrown when a load or parse error occurs.
XPathException	This is thrown when an error occurs processing the XPath.

See Also

[ConfigFile Class](#) | [ActionEngine.Api Namespace](#) | [ConfigFile.GetString Overload List](#)

API Class Library

ConfigFile.GetString Method (String, String)

This returns a string from the configuration file.

```
public string GetString(  
    string xpath,  
    string defaultValue  
)
```

Parameters

xpath

The XPath relative to the root element.

defaultValue

The default value to return if the XPath is not found or if the configuration file does not exist. Can be null.

Return Value

The string value, or defaultValue if not found, or defaultValue if the configuration file does not exist.

Remarks

This returns a string from the configuration file.

Machine-specific logic is taken into account when evaluating the XPath. See the class overview for more information.

Exceptions

Exception Type	Condition
XmlException	This is thrown when a load or parse error occurs.
XPathException	This is thrown when an error occurs processing the XPath.

See Also

[ConfigFile Class](#) | [ActionEngine.Api Namespace](#) | [ConfigFile.GetString Overload List](#)

API Class Library

ConfigFile.SelectSingleNode Method

This returns an XmlNode from the configuration file.

```
public XmlNode SelectSingleNode(  
    string xpath  
)
```

Parameters

xpath

The XPath relative to the root element.

Return Value

The XmlNode, or null if the file does not exist or the XPath does not exist.

Remarks

This returns an XmlNode from the configuration file. If the file does not exist, or if the XPath does not exist, null is returned.

Machine-specific logic is taken into account when evaluating the XPath. See the class overview for more information.

Exceptions

Exception Type

XmlException

XPathException

Condition

This is thrown when a load or parse error occurs.

This is thrown when an error occurs processing the XPath.

See Also

[ConfigFile Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

CreditCard Class

This class represents a credit card.

For a list of all members of this type, see CreditCard Members.

[System.Object](#)

[FriendlyData](#)

[CreditCard](#)

public class CreditCard : FriendlyData

Requirements

Namespace: ActionEngine.Api

Assembly: aefwapi (in aefwapi.dll)

See Also

[CreditCard Members](#) | [ActionEngine.Api Namespace](#) | [CreditCards](#)

[API Class Library](#)

CreditCard Members

[CreditCard overview](#)

Public Instance Constructors

[CreditCard Constructor](#)

This constructs a credit card.

Public Instance Properties

[Address](#)

The billing address.

[CardType](#)

The credit card's type, which is derived from the number.

[ExpMonth](#)

The expiration month (1 - 12).

[ExpYear](#)

The four-digit expiration year.

[FriendlyName \(inherited from FriendlyData\)](#)

The friendly name of the user data.

[Number](#)

The credit card number.

[PersonsName](#)

The name of the card holder.

Public Instance Methods

Equals (inherited from Object)	Determines whether the specified Object is equal to the current Object.
GetHashCode (inherited from Object)	Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.
GetType (inherited from Object)	Gets the Type of the current instance.
ToString	This returns an XML representation of the credit card.

Protected Instance Methods

Finalize (inherited from Object)	Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.
MemberwiseClone (inherited from Object)	Creates a shallow copy of the current Object.

See Also

[CreditCard Class](#) | [ActionEngine.Api Namespace](#) | [CreditCards](#)

[API Class Library](#)

CreditCard Constructor

This constructs a credit card.

```
public CreditCard(  
    string friendlyName,  
    string number,  
    string personsName,  
    Address address,  
    int expMonth,  
    int expYear  
)
```

Parameters

friendlyName

The friendly name of the credit card.

number

The credit card number. The credit card's type is derived automatically from the number.

personsName

The name of the card holder.

address

The billing address.

expMonth

The expiration month.

expYear

The four-digit expiration year.

See Also

[CreditCard Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

CreditCard Properties

The properties of the **CreditCard** class are listed below. For a complete list of **CreditCard** class members, see the [CreditCard Members](#) topic.

Public Instance Properties

Address	The billing address.
CardType	The credit card's type, which is derived from the number.
ExpMonth	The expiration month (1 - 12).
ExpYear	The four-digit expiration year.
FriendlyName (inherited from FriendlyData)	The friendly name of the user data.
Number	The credit card number.
PersonsName	The name of the card holder.

See Also

[CreditCard Class](#) | [ActionEngine.Api Namespace](#) | [CreditCards](#)

[API Class Library](#)

CreditCard.Address Property

The billing address.

public Address Address {get; set;}

Remarks

The billing address. This cannot be set to null.

See Also

[CreditCard Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

CreditCard.CardType Property

The credit card's type, which is derived from the number.

public CreditCard.Type CardType {get;}

Remarks

The credit card's type, which is derived from the number. If the type is unknown, Unknown is returned.

See Also

[CreditCard Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

CreditCard.ExpMonth Property

The expiration month (1 - 12).

public int ExpMonth {get; set;}

Exceptions

Exception Type

ArgumentOutOfRangeException

Condition

This is thrown when setting the month to an invalid value.

See Also

[CreditCard Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

CreditCard.ExpYear Property

The four-digit expiration year.

public int ExpYear {get; set;}

Exceptions

Exception Type

Condition

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ArgumentOutOfRangeException

This is thrown when setting the year to an invalid value.

See Also

CreditCard Class | ActionEngine.Api Namespace

API Class Library

CreditCard.Number Property

The credit card number.

public string Number {get; set;}

Remarks

The credit card number. This cannot be set to null.

See Also

CreditCard Class | ActionEngine.Api Namespace

API Class Library

CreditCard.PersonsName Property

The name of the card holder.

public string PersonsName {get; set;}

Remarks

The name of the card holder. This cannot be set to null.

See Also

CreditCard Class | ActionEngine.Api Namespace

API Class Library

CreditCard Methods

The methods of the CreditCard class are listed below. For a complete list of CreditCard class members, see the CreditCard Members topic.

Public Instance Methods

Equals (inherited from Object)

Determines whether the specified Object is equal to the current Object.

GetHashCode (inherited from Object)

Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.

GetType (inherited from Object)

Gets the Type of the current instance.

ToString

This returns an XML representation of the credit card.

Protected Instance Methods

Finalize (inherited from Object)

Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.

MemberwiseClone (inherited from Object)

Creates a shallow copy of the current Object.

See Also

CreditCard Class | ActionEngine.Api Namespace | CreditCards

API Class Library

Cr ditCard.T String Method

This returns an XML representation of the credit card.

public override string ToString();

Return Value

An XML representation of the credit card.

See Also

CreditCard Class | ActionEngine.Api Namespace

[API Class Library](#)

CreditCard.Type Enumeration

The enumeration of valid credit card types.

public enum CreditCard.Type

Members

Member Name

AmericanExpress

DinersClub

Discover

Jcb

MasterCard

Unknown

Visa

Description

American Express

Diner's Club

Discover

JCB

MasterCard

Unknown

Visa

Requirements

Namespace: ActionEngine.Api

Assembly: aefwapi (in aefwapi.dll)

See Also

ActionEngine.Api Namespace

[API Class Library](#)

CreditCards Class

This class represents a collection of CreditCard objects.

For a list of all members of this type, see CreditCards Members.

System.Object

FriendlyDataSet

CreditCards

public class CreditCards : FriendlyDataSet

Requirements

Namespace: ActionEngine.Api

Assembly: aefwapi (in aefwapi.dll)

See Also

CreditCards Members | ActionEngine.Api Namespace | CreditCard

[API Class Library](#)

CreditCards Members

CreditCards overview

Public Instance Constructors

CreditCards Constructor

This constructs an empty collection of credit cards.

Public Instance Properties

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GetPrimary

This retrieves the primary credit card of the collection.

Item

This retrieves a credit card by the given friendly name.

Public Instance Methods

Add

Equals (inherited from Object)

This adds a credit card to the collection.

Determines whether the specified Object is equal to the current Object.

GetEnumerator (inherited from FriendlyDataSet)

This returns an IEnumerator for enumerating the collection of friendly data.

GetHashCode (inherited from Object)

Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.

GetType (inherited from Object)

Gets the Type of the current instance.

Remove

This removes the credit card with the given friendly name.

SetPrimary (inherited from FriendlyDataSet)

This sets the primary friendly data for the collection.

ToString (inherited from FriendlyDataSet)

This returns an XML representation of the friendly data set.

Protected Instance Methods

Finalize (inherited from Object)

Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.

Creates a shallow copy of the current Object.

See Also

[CreditCards Class](#) | [ActionEngine.Api Namespace](#) | [CreditCard](#)

[API Class Library](#)

CreditCards Constructor

This constructs an empty collection of credit cards.

`public CreditCards();`

See Also

[CreditCards Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

CreditCards Properties

The properties of the **CreditCards** class are listed below. For a complete list of **CreditCards** class members, see the [CreditCards Members](#) topic.

Public Instance Properties

GetPrimary

This retrieves the primary credit card of the collection.

Item

This retrieves a credit card by the given friendly name.

See Als

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CreditCards Class | ActionEngine.Api Namespace | CreditCard

API Class Library

CreditCards.GetPrimary Property

This retrieves the primary credit card of the collection.

```
public CreditCard GetPrimary {get;}
```

Remarks

This retrieves the primary credit card of the collection. If the collection is empty, null is returned.

See Also

CreditCards Class | ActionEngine.Api Namespace

API Class Library

CreditCards.Item Property

This retrieves a credit card by the given friendly name.

```
public CreditCard this[  
    string friendlyName  
] {get;}
```

Remarks

This retrieves a credit card by the given friendly name. If none is found, null is returned.

See Also

CreditCards Class | ActionEngine.Api Namespace

API Class Library

CreditCards Methods

The methods of the **CreditCards** class are listed below. For a complete list of **CreditCards** class members, see the CreditCards Members topic.

Public Instance Methods

Add

This adds a credit card to the collection.

Equals (inherited from Object)

Determines whether the specified Object is equal to the current Object.

GetEnumerator (inherited from FriendlyDataSet)

This returns an IEnumerator for enumerating the collection of friendly data.

GetHashCode (inherited from Object)

Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.

GetType (inherited from Object)

Gets the Type of the current instance.

Remove

This removes the credit card with the given friendly name.

SetPrimary (inherited from FriendlyDataSet)

This sets the primary friendly data for the collection.

ToString (inherited from FriendlyDataSet)

This returns an XML representation of the friendly data set.

Protected Instance Methods

Finalize (inherited from Object)

Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.

Creates a shallow copy of the current Object.

See Also

CreditCards Class | ActionEngine.Api Namespace | CreditCard

API Class Library

CreditCards.Add Method

This adds a credit card to the collection.

```
public void Add(  
    CreditCard creditCard  
)
```

Parameters

creditCard

The credit card to add to the collection.

See Also

CreditCards Class | ActionEngine.Api Namespace

API Class Library

CreditCards.Remove Method

This removes the credit card with the given friendly name.

```
public CreditCard Remove(  
    string friendlyName  
)
```

Parameters

friendlyName

The friendly name of the credit card to remove.

Return Value

The credit card removed is returned, or null if not found.

Remarks

This removes the credit card with the given friendly name. If the credit card is not found, no action is taken. If the credit card removed was primary, a new one is selected.

See Also

CreditCards Class | ActionEngine.Api Namespace

API Class Library

DeckResponse Class

This class represents an HTML deck response, which is displayed as rich markup on the client.

For a list of all members of this type, see DeckResponse Members.

System.Object

 Response

DeckResponse

```
public class DeckResponse : Response
```

Remarks

This class represents an HTML deck response, which is displayed as rich markup on the client. It is simply a container for a result and some auxiliary data. The result is input to an XSLT transformation on the engine that produces the rich markup. The name of the XSLT file is the feature ID plus .info.xsl. For example, if the feature ID is myfeature, the name of the XSLT file needs to be myfeature.info.xsl.

Requirements

Namespace: ActionEngine.Api

Assembly: aefwapi (in aefwapi.dll)

See Also

DeckResponse Members | ActionEngine.Api Namespace | Result

API Class Library

DeckResponse Members

DeckResponse overview

Public Instance Constructors

DeckResponse Constructor

This constructs an HTML deck response.

Public Instance Methods

AddMessage

This adds a message to the response. Messages are generally displayed on the client as a pop-up dialog.

Equals (inherited from Object)

Determines whether the specified Object is equal to the current Object.

GetHashCode (inherited from Object)

Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.

GetType (inherited from Object)

Gets the Type of the current instance.

ToString (inherited from Response)

This returns an XML representation of the response.

Protected Instance Methods

Finalize (inherited from Object)

Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.

MemberwiseClone (inherited from Object)

Creates a shallow copy of the current Object.

See Also

[DeckResponse Class](#) | [ActionEngine.Api Namespace](#) | [Result](#)

[API Class Library](#)

DeckResponse Constructor

This constructs an HTML deck response.

public DeckResponse(

 Result *result*

);

Parameters

result

The result, which cannot be null.

See Also

[DeckResponse Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

DeckResponse Methods

The methods of the **DeckResponse** class are listed below. For a complete list of **DeckResponse** class members, see the [DeckResponse Members](#) topic.

Public Instance Methods

AddMessage

This adds a message to the response. Messages are generally displayed on the client as a pop-up dialog.

Equals (inherited from Object)	Determines whether the specified Object is equal to the current Object.
GetHashCode (inherited from Object)	Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.
GetType (inherited from Object)	Gets the Type of the current instance.
ToString (inherited from Response)	This returns an XML representation of the response.

Protected Instance Methods

Finalize (inherited from Object)	Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.
MemberwiseClone (inherited from Object)	Creates a shallow copy of the current Object.

See Also

[DeckResponse Class](#) | [ActionEngine.Api Namespace](#) | [Result](#)

[API Class Library](#)

DeckResponse.AddMessage Method

This adds a message to the response. Messages are generally displayed on the client as a pop-up dialog.

```
public void AddMessage(  
    Message message  
)
```

Parameters

message

The message to add.

See Also

[DeckResponse Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

Device Class

This class represents a client device.

For a list of all members of this type, see [Device Members](#).

[System.Object](#)

Device

```
public class Device
```

Requirements

Namespace: ActionEngine.Api

Assembly: aefwapi (in aefwapi.dll)

See Also

[Device Members](#) | [ActionEngine.Api Namespace](#) | [Devices](#)

[API Class Library](#)

Device Members

[Device overview](#)

Public Instance Properties

IsPushable

This returns whether or not the device can accept

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PhoneNumber	"pushed" content from the server. This returns the phone number associated with the device, if one exists.
UtcOffset	This returns the difference between Coordinated Universal Time (UTC) and the device's local date/time.

Public Instance Methods

Equals (inherited from Object)	Determines whether the specified Object is equal to the current Object.
GetHashCode (inherited from Object)	Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.
GetType (inherited from Object)	Gets the Type of the current instance.
ToString (inherited from Object)	Returns a String that represents the current Object.

Protected Instance Methods

Finalize (inherited from Object)	Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.
MemberwiseClone (inherited from Object)	Creates a shallow copy of the current Object.

See Also

[Device Class](#) | [ActionEngine.Api Namespace](#) | [Devices](#)

[API Class Library](#)

Device Properties

The properties of the **Device** class are listed below. For a complete list of **Device** class members, see the [Device Members](#) topic.

Public Instance Properties

IsPushable	This returns whether or not the device can accept "pushed" content from the server.
PhoneNumber	This returns the phone number associated with the device, if one exists.
UtcOffset	This returns the difference between Coordinated Universal Time (UTC) and the device's local date/time.

See Also

[Device Class](#) | [ActionEngine.Api Namespace](#) | [Devices](#)

[API Class Library](#)

Device.IsPushable Property

This returns whether or not the device can accept "pushed" content from the server.

public bool IsPushable {get;}

Remarks

Before calling AddFeatureSchedule, check this value.

See Also

[Device Class](#) | [ActionEngine.Api Namespace](#)

API Class Library

Device.PhoneNumber Property

This returns the phone number associated with the device, if one exists.

public string PhoneNumber {get;}

Remarks

This returns the phone number associated with the device, if one exists. Not all devices have phone numbers, and those that do may not be registered with the framework, in which case null is returned.

See Also

[Device Class](#) | [ActionEngine.Api Namespace](#)

API Class Library

Device.UtcOffset Property

This returns the difference between Coordinated Universal Time (UTC) and the device's local date/time.

public System.TimeSpan UtcOffset {get;}

Remarks

This returns the difference between Coordinated Universal Time (UTC) and the device's local date/time. For devices in North America, this is a negative value.

See Also

[Device Class](#) | [ActionEngine.Api Namespace](#)

API Class Library

Devices Class

This class represents a set of client devices.

For a list of all members of this type, see [Devices Members](#).

[System.Object](#)

Devices

public class Devices

Requirements

Namespace: ActionEngine.Api

Assembly: aefwapi (in aefwapi.dll)

See Also

[Devices Members](#) | [ActionEngine.Api Namespace](#) | [Device](#)

API Class Library

Devices Members

[Devices overview](#)

Public Instance Properties

Current

This returns the device involved in the current request.

Public Instance Methods

Equals (inherited from Object)

Determines whether the specified Object is equal to the current Object.

GetEnumerator

This returns an IEnumerator for enumerating the collection of devices, where each item is a Device object.

GetHashCode (inherited from Object)

Serves as a hash function for a particular type,

GetType (inherited from Object)
ToString (inherited from Object)

suitable for use in hashing algorithms and data structures like a hash table.
Gets the Type of the current instance.
Returns a String that represents the current Object.

Protected Instance Methods

Finalize (inherited from Object)

Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.

MemberwiseClone (inherited from Object)

Creates a shallow copy of the current Object.

See Also

[Devices Class](#) | [ActionEngine.Api Namespace](#) | [Device](#)

[API Class Library](#)

Devices Properties

The properties of the **Devices** class are listed below. For a complete list of **Devices** class members, see the [Devices Members](#) topic.

Public Instance Properties

Current

This returns the device involved in the current request.

See Also

[Devices Class](#) | [ActionEngine.Api Namespace](#) | [Device](#)

[API Class Library](#)

Devices.Current Property

This returns the device involved in the current request.

public Device Current {get;}

See Also

[Devices Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

Devices Methods

The methods of the **Devices** class are listed below. For a complete list of **Devices** class members, see the [Devices Members](#) topic.

Public Instance Methods

Equals (inherited from Object)

Determines whether the specified Object is equal to the current Object.

GetEnumerator

This returns an IEnumator for enumerating the collection of devices, where each item is a Device object.

GetHashCode (inherited from Object)

Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.

GetType (inherited from Object)

Gets the Type of the current instance.

ToString (inherited from Object)

Returns a String that represents the current Object.

Protected Instance Methods

Finalize (inherited from Object)	Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.
MemberwiseClone (inherited from Object)	Creates a shallow copy of the current Object.

See Also

[Devices Class](#) | [ActionEngine.Api Namespace](#) | [Device](#)

[API Class Library](#)

Devices.GetEnumerator Method

This returns an IEnumerator for enumerating the collection of devices, where each item is a Device object.

`public IEnumerator GetEnumerator();`

Return Value

The IEnumerator.

See Also

[Devices Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

DieHandler Delegate

This delegate is used for sending "die" events.

`public delegate void DieHandler();`

Requirements

Namespace: ActionEngine.Api

Assembly: aefwapi (in aefwapi.dll)

See Also

[ActionEngine.Api Namespace](#) | [DieEvents](#)

[API Class Library](#)

Email Class

This class represents an e-mail address.

For a list of all members of this type, see [Email Members](#).

`System.Object`

`FriendlyData`

`Email`

`public class Email : FriendlyData`

Requirements

Namespace: ActionEngine.Api

Assembly: aefwapi (in aefwapi.dll)

See Also

[Email Members](#) | [ActionEngine.Api Namespace](#) | [Emails](#)

[API Class Library](#)

Email Members

[Email overview](#)

Public Instance Constructors

`Email Constructor`

This constructs an e-mail address.

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Public Instance Properties

Address
FriendlyName (inherited from FriendlyData)

The e-mail address itself, which cannot be null.
The friendly name of the user data.

Public Instance Methods

Equals (inherited from Object)

Determines whether the specified Object is equal to the current Object.

GetHashCode (inherited from Object)

Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.

GetType (inherited from Object)

Gets the Type of the current instance.

ToString

This returns an XML representation of the e-mail address.

Protected Instance Methods

Finalize (inherited from Object)

Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.

MemberwiseClone (inherited from Object)

Creates a shallow copy of the current Object.

See Also

[Email Class](#) | [ActionEngine.Api Namespace](#) | [Emails](#)

[API Class Library](#)

Email Constructor

This constructs an e-mail address.

```
public Email(  
    string friendlyName,  
    string address  
)
```

Parameters

friendlyName

The friendly name of the e-mail address.

address

The e-mail address.

See Also

[Email Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

Email Properties

The properties of the **Email** class are listed below. For a complete list of **Email** class members, see the [Email Members](#) topic.

Public Instance Properties

Address

The e-mail address itself, which cannot be null.

FriendlyName (inherited from FriendlyData)

The friendly name of the user data.

See Also

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Email Class | ActionEngine.Api Namespace | Emails

API Class Library

Email.Address Property

The e-mail address itself, which cannot be null.

public string Address {get; set;}

See Also

Email Class | ActionEngine.Api Namespace

API Class Library

Email Methods

The methods of the **Email** class are listed below. For a complete list of **Email** class members, see the [Email Members](#) topic.

Public Instance Methods

Equals (inherited from **Object**)

Determines whether the specified Object is equal to the current Object.

GetHashCode (inherited from **Object**)

Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.

GetType (inherited from **Object**)

Gets the Type of the current instance.

ToString

This returns an XML representation of the e-mail address.

Protected Instance Methods

Finalize (inherited from **Object**)

Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.

MemberwiseClone (inherited from **Object**)

Creates a shallow copy of the current Object.

See Also

Email Class | ActionEngine.Api Namespace | Emails

API Class Library

Email.ToString Method

This returns an XML representation of the e-mail address.

public override string ToString();

Return Value

An XML representation of the e-mail address.

See Also

Email Class | ActionEngine.Api Namespace

API Class Library

Emails Class

This class represents a collection of Email objects.

For a list of all members of this type, see [Emails Members](#).

System.Object

FriendlyDataSet

Emails

public class Emails : FriendlyDataSet
Requirements
Namespac : ActionEngine.Api
Assembly: aefwapi (in aefwapi.dll)
See Also
[Emails Members](#) | [ActionEngine.Api Namespace](#) | [Email](#)

API Class Library

Emails Members

Emails overview

Public Instance Constructors

Emails Constructor

This constructs an empty collection of e-mail addresses.

Public Instance Properties

GetPrimary

This retrieves the primary e-mail address of the collection.

Item

This retrieves an e-mail address by the given friendly name.

Public Instance Methods

Add

Equals (inherited from Object)

This adds an e-mail address to the collection.
Determines whether the specified Object is equal to the current Object.

GetEnumerator (inherited from FriendlyDataSet)

This returns an IEnumerator for enumerating the collection of friendly data.

GetHashCode (inherited from Object)

Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.

GetType (inherited from Object)

Gets the Type of the current instance.

Remove

This removes the e-mail address with the given friendly name.

SetPrimary (inherited from FriendlyDataSet)

This sets the primary friendly data for the collection.
This returns an XML representation of the friendly data set.

ToString (inherited from FriendlyDataSet)

Protected Instance Methods

Finalize (inherited from Object)

Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.

MemberwiseClone (inherited from Object)

Creates a shallow copy of the current Object.

See Also

[Emails Class](#) | [ActionEngine.Api Namespace](#) | [Email](#)

API Class Library

Emails C nstructor

This constructs an empty collection of e-mail addresses.

public Emails();

See Also

Emails Class | ActionEngine.Api Namespace

API Class Library

Emails Properties

The properties of the **Emails** class are listed below. For a complete list of **Emails** class members, see the **Emails Members** topic.

Public Instance Properties

GetPrimary

This retrieves the primary e-mail address of the collection.

Item

This retrieves an e-mail address by the given friendly name.

See Also

Emails Class | ActionEngine.Api Namespace | Email

API Class Library

Emails.GetPrimary Property

This retrieves the primary e-mail address of the collection.

public Email GetPrimary {get;}

Remarks

This retrieves the primary e-mail address of the collection. If the collection is empty, null is returned.

See Also

Emails Class | ActionEngine.Api Namespace

API Class Library

Emails.Item Property

This retrieves an e-mail address by the given friendly name.

public Email this[

 string friendlyName

] {get;}

Remarks

This retrieves an e-mail address by the given friendly name. If none is found, null is returned.

See Also

Emails Class | ActionEngine.Api Namespace

API Class Library

Emails Methods

The methods of the **Emails** class are listed below. For a complete list of **Emails** class members, see the **Emails Members** topic.

Public Instance Methods

Add

This adds an e-mail address to the collection.

Equals (inherited from Object)

Determines whether the specified Object is equal to the current Object.

GetEnumerator (inherited from FriendlyDataSet)

This returns an IEnumerator for enumerating the collection of friendly data.

GetHashCode (inherited from Object)

Serves as a hash function for a particular type,

GetType (inherited from **Object**)
Remove

SetPrimary (inherited from **FriendlyDataSet**)
ToString (inherited from **FriendlyDataSet**)

suitable for use in hashing algorithms and data structures like a hash table.
Gets the Type of the current instance.
This removes the e-mail address with the given friendly name.
This sets the primary friendly data for the collection.
This returns an XML representation of the friendly data set.

Protected Instance Methods

Finalize (inherited from **Object**)

Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.

MemberwiseClone (inherited from **Object**)

Creates a shallow copy of the current Object.

See Also

[Emails Class](#) | [ActionEngine.Api Namespace](#) | [Email](#)

[API Class Library](#)

Emails.Add Method

This adds an e-mail address to the collection.

**public void Add(
 Email *email*
)**

Parameters
email

The e-mail address to add to the collection.

See Also

[Emails Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

Emails.Remove Method

This removes the e-mail address with the given friendly name.

**public Email Remove(
 string *friendlyName*
)**

Parameters
friendlyName

The friendly name of the e-mail address to remove.

Return Value

The e-mail address removed is returned, or null if not found.

Remarks

This removes the e-mail address with the given friendly name. If the e-mail address is not found, no action is taken. If the e-mail address removed was primary, a new one is selected.

See Also

[Emails Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

FriendlyData Class

This is the base class for various user data classes that have friendly names.

For a list of all members of this type, see [FriendlyData Members](#).

System.Object

FriendlyData

public abstract class FriendlyData

Requirements

Namespace: ActionEngine.Api

Assembly: aefwapi (in aefwapi.dll)

See Also

[FriendlyData Members](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

FriendlyData Members

[FriendlyData overview](#)

Public Instance Properties

FriendlyName

The friendly name of the user data.

Public Instance Methods

Equals (inherited from Object)

Determines whether the specified Object is equal to the current Object.

GetHashCode (inherited from Object)

Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.

GetType (inherited from Object)

Gets the Type of the current instance.

ToString (inherited from Object)

Returns a String that represents the current Object.

Protected Instance Constructors

FriendlyData Constructor

Protected Instance Methods

Finalize (inherited from Object)

Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.

Creates a shallow copy of the current Object.

See Also

[FriendlyData Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

FriendlyData Constructor

protected FriendlyData();

See Also

[FriendlyData Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

FriendlyData Properties

The properties of the **FriendlyData** class are listed below. For a complete list of **FriendlyData** class members, see the [FriendlyData Members](#) topic.

Public Instance Properties

FriendlyName The friendly name of the user data.

See Also

[FriendlyData Class](#) | [ActionEngine.Api Namespace](#)

API Class Library

FriendlyData.FriendlyName Property

The friendly name of the user data.

public string FriendlyName {get; set;}

Remarks

The friendly name of the user data. This cannot be set to null.

See Also

[FriendlyData Class](#) | [ActionEngine.Api Namespace](#)

API Class Library

FriendlyDataSet Class

This is the base class for various collections of user data that have friendly names.

For a list of all members of this type, see [FriendlyDataSet Members](#).

[System.Object](#)

FriendlyDataSet

public abstract class FriendlyDataSet : IEnumerable

Requirements

Namespace: ActionEngine.Api

Assembly: aefwapi (in aefwapi.dll)

See Also

[FriendlyDataSet Members](#) | [ActionEngine.Api Namespace](#)

API Class Library

FriendlyDataSet Members

[FriendlyDataSet overview](#)

Public Instance Methods

Equals (inherited from Object)

Determines whether the specified Object is equal to the current Object.

GetEnumerator

This returns an IEnumerator for enumerating the collection of friendly data.

GetHashCode (inherited from Object)

Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.

GetType (inherited from Object)

Gets the Type of the current instance.

SetPrimary

This sets the primary friendly data for the collection.

ToString

This returns an XML representation of the friendly data set.

Protected Instance Methods

Finalize (inherited from Object)

Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.

MemberwiseClone (inherited from **Object**) Creates a shallow copy of the current Object.

See Also

[FriendlyDataSet Class](#) | [ActionEngine.Api Namespace](#)

API Class Library

FriendlyDataSet Methods

The methods of the **FriendlyDataSet** class are listed below. For a complete list of **FriendlyDataSet** class members, see the [FriendlyDataSet Members](#) topic.

Public Instance Methods

Equals (inherited from **Object**)

Determines whether the specified Object is equal to the current Object.

GetEnumerator

This returns an **IEnumerator** for enumerating the collection of friendly data.

GetHashCode (inherited from **Object**)

Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.

GetType (inherited from **Object**)

Gets the Type of the current instance.

SetPrimary

This sets the primary friendly data for the collection.

ToString

This returns an XML representation of the friendly data set.

Protected Instance Methods

Finalize (inherited from **Object**)

Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.

MemberwiseClone (inherited from **Object**)

Creates a shallow copy of the current Object.

See Also

[FriendlyDataSet Class](#) | [ActionEngine.Api Namespace](#)

API Class Library

FriendlyDataSet.GetEnumerator Method

This returns an **IEnumerator** for enumerating the collection of friendly data.

public I Enumerator GetEnumerator();

Return Value

The **IEnumerator**.

Implements

IEnumerable.GetEnumerator

See Also

[FriendlyDataSet Class](#) | [ActionEngine.Api Namespace](#)

API Class Library

FriendlyDataSet.SetPrimary Method

This sets the primary friendly data for the collection.

public void SetPrimary(

string friendlyName

);

Parameters

friendlyName

The friendly name of the friendly data to make primary.

Exceptions

Exception Type

ApplicationException

Condition

This is thrown when the collection is empty or the given friendly name is not found.

See Also

[FriendlyDataSet Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

FriendlyDataSet.ToString Method

This returns an XML representation of the friendly data set.

public override string ToString();

Return Value

An XML representation of the friendly data set.

See Also

[FriendlyDataSet Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

FriendlyPair Class

This class represents a pairing of a friendly name with a FriendlyData object.

For a list of all members of this type, see [FriendlyPair Members](#).

System.Object

FriendlyPair

public class FriendlyPair

Requirements

Namespace: ActionEngine.Api

Assembly: aefwapi (in aefwapi.dll)

See Also

[FriendlyPair Members](#) | [ActionEngine.Api Namespace](#) | [FriendlyData](#)

[API Class Library](#)

FriendlyPair Members

[FriendlyPair overview](#)

Public Instance Constructors

FriendlyPair Constructor

This constructs a friendly pair.

Public Instance Properties

FriendlyData

The friendly data.

FriendlyName

The friendly name.

Public Instance Methods

Equals (inherited from Object)

Determines whether the specified Object is equal to the current Object.

GetHashCode (inherited from Object)

Serves as a hash function for a particular type, suitable for use in hashing algorithms and data

GetType (inherited from Object)
ToString (inherited from Object)

structures like a hash table.
Gets the Type of the current instance.
Returns a String that represents the current Object.

Protected Instance Methods

Finalize (inherited from Object)

Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.

MemberwiseClone (inherited from Object)

Creates a shallow copy of the current Object.

See Also

[FriendlyPair Class](#) | [ActionEngine.Api Namespace](#) | [FriendlyData](#)

[API Class Library](#)

FriendlyPair Constructor

This constructs a friendly pair.

```
public FriendlyPair(  
    string friendlyName,  
    FriendlyData friendlyData  
)
```

Parameters

friendlyName

The friendly name.

friendlyData

The friendly data.

See Also

[FriendlyPair Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

FriendlyPair Properties

The properties of the **FriendlyPair** class are listed below. For a complete list of **FriendlyPair** class members, see the [FriendlyPair Members](#) topic.

Public Instance Properties

FriendlyData
FriendlyName

The friendly data.
The friendly name..

See Also

[FriendlyPair Class](#) | [ActionEngine.Api Namespace](#) | [FriendlyData](#)

[API Class Library](#)

FriendlyPair.FriendlyData Property

The friendly data.

```
public FriendlyData FriendlyData {get; set;}
```

See Also

[FriendlyPair Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

FriendlyPair.FriendlyName Property

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SEA/109927/135179/AKP/317034.1

The friendly name.

```
public string FriendlyName {get; set;}
```

See Also

[FriendlyPair Class | ActionEngine.Api Namespace](#)

[API Class Library](#)

HealthResponse Class

This class represents a response to report on the health of a module.

For a list of all members of this type, see [HealthResponse Members](#).

[System.Object](#)

[Response](#)

HealthResponse

```
public class HealthResponse : Response
```

Remarks

This class represents a response to report on the health of a module. !@# MORE..... EXPLAIN HOW TO SET UP INTERVALS, HOW HEALTH RESPONSES CAN BE RETURNED AT ANY TIME IN ANY API, ETC.

Requirements

Namespace: ActionEngine.Api

Assembly: aefwapi (in aefwapi.dll)

See Also

[HealthResponse Members | ActionEngine.Api Namespace](#)

[API Class Library](#)

HealthResponse Members

[HealthResponse overview](#)

Public Instance Constructors

HealthResponse

Overloaded. Initializes a new instance of the [HealthResponse](#) class.

Public Instance Methods

Equals (inherited from Object)

Determines whether the specified Object is equal to the current Object.

GetHashCode (inherited from Object)

Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.

GetType (inherited from Object)

Gets the Type of the current instance.

ToString (inherited from Response)

This returns an XML representation of the response.

Protected Instance Methods

Finalize (inherited from Object)

Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.

MemberwiseClone (inherited from Object)

Creates a shallow copy of the current Object.

See Also

[HealthResponse Class | ActionEngine.Api Namespace](#)

API Class Library

HealthResponse C nstruct r

This constructs a health response.

Overload List

This constructs a health response.

```
public HealthResponse(IModule,Status);
```

This constructs a health response.

```
public HealthResponse(IModule,Status,string);
```

See Also

[HealthResponse Class](#) | [ActionEngine.Api Namespace](#)

API Class Library

HealthResponse Constructor (IModule, Status)

This constructs a health response.

```
public HealthResponse(
```

```
    IModule module,
```

```
    Status status
```

```
);
```

Parameters

module

The module whose health is being reported.

status

The health of the module.

Remarks

This constructs a health response. A default description is provided.

See Also

[HealthResponse Class](#) | [ActionEngine.Api Namespace](#) | [HealthResponse Constructor Overload List](#)

API Class Library

HealthResponse Constructor (IModule, Status, String)

This constructs a health response.

```
public HealthResponse(
```

```
    IModule module,
```

```
    Status status,
```

```
    string description
```

```
);
```

Parameters

module

The module whose health is being reported.

status

The health of the module.

description

The description of the status (optional). If null, a default description is provided.

See Also

[HealthResponse Class](#) | [ActionEngine.Api Namespace](#) | [HealthResponse Constructor Overload List](#)

API Class Library

HealthResponse.Status Enum ration

The enumeration of health statuses.

```
public enum HealthResponse.Status
```

Members

Member Name	Description
Healthy	The module is healthy.
Sick	The module is sick.

Requirements

Namespace: ActionEngine.Api
Assembly: aefwapi (in aefwapi.dll)

See Also

ActionEngine.Api Namespace

API Class Library

IAuthHandler Interface

This interface represents a user authentication handler, which can do custom authorization handling as well as taking ownership of various categories of user data.

For a list of all members of this type, see IAuthHandler Members.

public interface IAuthHandler : IModule, IHealth

Remarks

This interface represents a user authentication handler, which can do custom authorization handling as well as taking ownership of various categories of user data. To implement your own authentication handler:

- Create a new plugin folder.
- In the plugin folder, create a "cfg" subfolder. In the cfg folder, create an "install.xml" file. The install.xml file defines a component of type "auth." Here is an example install.xml file:
<install>
 <content> <component name="myauthcomp" type="auth"> <class assembly="myauthcomp.dll" lang=".net">MyCompany.MyAuthHandler</class> </component> </content> <plugin>
 <id>myauth</id> <namespace>abc</namespace> <version>0.1</version> </plugin> </install>
- In the plugin folder, create a "dotnet" subfolder. The assembly referenced in install.xml is relative to this folder.
- Implement the IAuthHandler interface using the class name defined in install.xml.
- Edit aereg.xml to point to your auth handler for a given user namespace. Note that the namespace defined in install.xml is actually a "resource" namespace, not a user namespace. For example, to use your auth handler for user namespace "people," add this to aereg.xml: <namespaces> <ns id="people"> <auth comId="abc:myauthcomp" password="...optional..."> </ns> </namespaces>
- The "password" attribute above is optional. If provided, it is passed to every authentication related call to the plugin host. It serves no purpose in this .NET API, but for a pure HTTP/XML based implementation it allows the auth implementation to make sure it's getting requests from an authenticated source, not some random client on the internet.
- At a minimum, implement CreateUser and GetSupportedData. Depending on what you advertise in GetSupportedData, you may need to implement other methods. To leave a method as not implemented, just return null or a new CodeResponse of E_NOT_IMPL.

Requirements

Namespace: ActionEngine.Api
Assembly: aefwapi (in aefwapi.dll)

See Also

IAuthHandler Members | ActionEngine.Api Namespace

API Class Library

IAuthHandler Members

IAuthHandler overview

Public Instance Methods

CreateUser	This is called to create a new user. CURRENTLY NOT IMPLEMENTED.
DeleteUser	This is called to check for the existence of a user.
DoesUserExist	This is called to retrieve custom concepts for collecting additional data during sign-up.
GetSignupConcepts	This is called to discover what user data and features this auth handler supports.
GetSupportedData	This is called to retrieve all user data owned by this auth handler.
GetUserData	This is called to authenticate a user.
LogOn	This is called to add, delete, and modify user data.
ModifyUserData	This is called to set a user's identity.
SetIdentity	This is called to set a user's password.
SetPassword	This is called to set the primary flag for a particular user data category.
SetPrimaryUserData	

See Also

[IAuthHandler Interface | ActionEngine.Api Namespace](#)

[API Class Library](#)

IAuthHandler Methods

The methods of the **IAuthHandler** interface are listed below. For a complete list of **IAuthHandler** interface members, see the [IAuthHandler Members](#) topic.

Public Instance Methods

CreateUser	This is called to create a new user. CURRENTLY NOT IMPLEMENTED.
DeleteUser	This is called to check for the existence of a user.
DoesUserExist	This is called to retrieve custom concepts for collecting additional data during sign-up.
GetSignupConcepts	This is called to discover what user data and features this auth handler supports.
GetSupportedData	This is called to retrieve all user data owned by this auth handler.
GetUserData	This is called to authenticate a user.
LogOn	This is called to add, delete, and modify user data.
ModifyUserData	This is called to set a user's identity.
SetIdentity	This is called to set a user's password.
SetPassword	This is called to set the primary flag for a particular user data category.
SetPrimaryUserData	

See Also

[IAuthHandler Interface | ActionEngine.Api Namespace](#)

[API Class Library](#)

IAuthHandler.CreateUser Method

This is called to create a new user.

Response CreateUser(

 ClientInfo clientInfo,

 User user,

 string conceptValues,

Result result

);

Parameters

clientInfo

Information about the client making the request.

user

The user to create.

conceptValues

The values of the submitted custom concepts.

result

The result associated with the original AnswersResponse.

Return Value

A Response.

Remarks

This is called to create a new user. If successful, typically a CodeResponse of S_OK is returned. If you wish to return custom sign-up concepts to gather more data, return a ConceptsResponse. If you wish to return a custom solution at the end of a successful sign-up, return an AnswersResponse.

If you include SignupConcepts in the response to GetSupportedData, you can append your own concepts to those already present in sign-up. This is done in response to GetSignupConcepts. Once those concepts are submitted back to the server, the concept values and a Result are provided as arguments here.

If you include SilentSignup in your response to GetSupportedData, this method behaves a bit differently. Silent sign-up involves two basic ideas. One is that, if the framework finds that an account exists in this auth handler but not in the framework database, it will automatically (silently) create a framework account, in which case CreateUser is never called. The second idea is that, if the user explicitly signs up, CreateUser will be called, and its implementation should handle two cases:

- The account does not exist in the auth handler. Your implementation should simply create the account.
- The account DOES exist in the auth handler. Your implementation should try to do a logon request with the given user name and password. If successful, return S_OK. If not, return E_LOGON_FAILED.

See Also

[IAuthHandler Interface](#) | [ActionEngine.Api Namespace](#) | [GetSignupConcepts](#)

[API Class Library](#)

IAuthHandler.DeleteUser Method

CURRENTLY NOT IMPLEMENTED.

Response DeleteUser(

ClientInfo clientInfo,

UserName userName,

string password

);

Parameters

clientInfo

Information about the client making the request.

userName

The user name.

password

The user's password. Note: the password is null in cases where administrator-level functionality is driving this call.

Return Value

A Response.

Remarks

This is called to delete an existing user. If successful, or if the user doesn't exist, return S_OK. Otherwise, return an appropriate error code.

See Also

IAuthHandler Interface | ActionEngine.Api Namespace

API Class Library

IAuthHandler.DoesUserExist Method

This is called to check for the existence of a user.

Response DoesUserExist(

 ClientInfo clientInfo,
 UserName userName

);

Parameters

clientInfo

Information about the client making the request.

userName

The user name.

Return Value

A Response.

Remarks

This is called to check for the existence of a user. The appropriate BooleanResponse should be returned, or a CodeResponse in case of error. If SilentSignup is supported, this is never called in which case returning null is fine.

See Also

IAuthHandler Interface | ActionEngine.Api Namespace

API Class Library

IAuthHandler.GetSignupConcepts Method

This is called to retrieve custom concepts for collecting additional data during sign-up.

Response GetSignupConcepts(

 ClientInfo clientInfo

);

Parameters

clientInfo

Information about the client making the request.

Return Value

A Response.

Remarks

This is called to retrieve custom concepts for collecting additional data during sign-up. To implement this, you must support SignupConcepts. A ConceptsResponse should be returned, or a CodeResponse in case of error.

See Also

IAuthHandler Interface | ActionEngine.Api Namespace | CreateUser

API Class Library

IAuthHandler.GetSupportedData Method

This is called to discover what user data and features this auth handler supports.

Response GetSupportedData(

 ClientInfo clientInfo

);

Parameters

clientInfo

Information about the client making the request.

Return Value

A Response.

Remarks

This is called to discover what user data and features this auth handler supports. A SupportedAuthDataResponse should be returned, or a CodeResponse in case of error.

See Also

IAuthHandler Interface | ActionEngine.Api Namespace

API Class Library

IAuthHandler.GetUserData Method

This is called to retrieve all user data owned by this auth handler.

Response GetUserData(

```
    ClientInfo clientInfo,  
    UserName userName,  
    string password  
);
```

Parameters

clientInfo

Information about the client making the request.

userName

The user name.

password

The user's password. Note: the password is null in cases where administrator-level functionality is driving this call.

Return Value

A Response.

Remarks

This is called to retrieve all user data owned by this auth handler. A UserDataResponse should be returned, or a CodeResponse in case of error.

See Also

IAuthHandler Interface | ActionEngine.Api Namespace | UserDataResponse

API Class Library

IAuthHandler.LogOn Method

This is called to authenticate a user.

Response LogOn(

```
    ClientInfo clientInfo,  
    User user,  
    UserName userName,  
    string password  
);
```

Parameters

clientInfo

Information about the client making the request.

user

The user, or null in the case of silent sign-up where the auth handler has created the account but the framework has not yet done so, which would only happen once for the life of the user.

userName

The user name.

password

The user's password.

Return Value

A Response.

Remarks

This is called to authenticate a user. A BooleanResponse should be returned with true for success and false for access denied, or a CodeResponse in case of error.

See Also

IAuthHandler Interface | ActionEngine.Api Namespace

API Class Library

IAuthHandler.ModifyUserData Method

This is called to add, delete, and modify user data.

Response ModifyUserData(

 ClientInfo *clientInfo*,
 UserName *userName*,
 string *password*,
 FriendlyData[] *toDelete*,
 FriendlyPair[] *toModify*,
 FriendlyData[] *toAdd*

);

Parameters

clientInfo

Information about the client making the request.

userName

The user name.

password

The user's password. Note: the password is null in cases where administrator-level functionality is driving this call.

toDelete

The friendly data to delete. This is never null, only potentially zero in length.

toModify

The friendly data to modify. This is never null, only potentially zero in length.

toAdd

The friendly data to add. This is never null, only potentially zero in length.

Return Value

A Response.

Remarks

This is called to add, delete, and modify user data. The order in which these modifications must be done is deletions, followed by modifications, followed by additions. If an error happens along the way, there is no need to roll back the changes already made, although this can be done if desired.

See Also

IAuthHandler Interface | ActionEngine.Api Namespace

API Class Library

IAuthHandler.SetIdentity Method

This is called to set a user's identity.

Response SetIdentity(

 ClientInfo *clientInfo*,
 UserName *userName*,
 string *password*,
 Identity *identity*

);

Parameters

clientInfo

Information about the client making the request.

userName

The user name.

password

The user's password. Note: the password is null in cases where administrator-level functionality is driving this call.

identity

The new identity.

Return Value

A Response.

Remarks

This is called to set a user's identity. If successful, return S_OK. Otherwise, return an appropriate error code.

See Also

IAuthHandler Interface | ActionEngine.Api Namespace

API Class Library

IAuthHandler.SetPassword Method

This is called to set a user's password.

Response SetPassword(

 ClientInfo *clientInfo*,

 UserName *userName*,

 string *password*,

 string *newPassword*

);

Parameters

clientInfo

Information about the client making the request.

userName

The user name.

password

The user's password. Note: the password is null in cases where administrator-level functionality is driving this call.

newPassword

The new password.

Return Value

A Response.

Remarks

This is called to set a user's password. If successful, return S_OK. Otherwise, return an appropriate error code. If password changes are not supported, return E_PASSWORD_CANT_CHANGE.

See Also

IAuthHandler Interface | ActionEngine.Api Namespace

API Class Library

IAuthHandler.SetPrimaryUserData Method

This is called to set the primary flag for a particular user data category.

Response SetPrimaryUserData(

 ClientInfo *clientInfo*,

 UserName *userName*,

 string *password*,

```
    string category,  
    string friendlyName  
);
```

Parameters

clientInfo

Information about the client making the request.

userName

The user name.

password

The user's password. Note: the password is null in cases where administrator-level functionality is driving this call.

category

The category of friendly data.

friendlyName

The friendly name that is to be made primary within the FriendlyDataSet.

Return Value

A Response.

Remarks

This is called to set the primary flag for a particular user data category. If successful, return S_OK. Otherwise, return an appropriate error code.

The valid categories are:

- ROOT_NAME
- ROOT_NAME
- ROOT_NAME
- ROOT_NAME

See Also

[IAuthHandler Interface](#) | ActionEngine.Api Namespace

[API Class Library](#)

Identity Class

This class represents a person's name broken out into first name, last name, etc.

For a list of all members of this type, see [Identity Members](#).

System.Object

Identity

public class Identity

Requirements

Namespace: ActionEngine.Api

Assembly: aefwapi (in aefwapi.dll)

See Also

[Identity Members](#) | ActionEngine.Api Namespace

[API Class Library](#)

Identity Members

[Identity overview](#)

Public Instance Constructors

Identity Constructor

This constructs an identity.

Public Instance Properties

FirstName

The person's first name.

LastName

The person's last name.

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SEA/109927/135179/AKP/317034.1

MiddleName	The person's middle name.
Suffix	The person's suffix.
Title	The person's title.
Public Instance Methods	
Equals (inherited from Object)	Determines whether the specified Object is equal to the current Object.
GetHashCode (inherited from Object)	Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.
GetType (inherited from Object)	Gets the Type of the current instance.
ToString (inherited from Object)	Returns a String that represents the current Object.

Protected Instance Methods

Finalize (inherited from Object)	Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.
MemberwiseClone (inherited from Object)	Creates a shallow copy of the current Object.

See Also

[Identity Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

Identity Constructor

This constructs an identity.

```
public Identity(  
    string first,  
    string middle,  
    string last  
)
```

Parameters

first

The first name, or null if not specified.

middle

The middle name, or null if not specified.

last

The last name, or null if not specified.

See Also

[Identity Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

Identity Properties

The properties of the **Identity** class are listed below. For a complete list of **Identity** class members, see the [Identity Members](#) topic.

Public Instance Properties

FirstName	The person's first name.
LastName	The person's last name.
MiddleName	The person's middle name.
Suffix	The person's suffix.

Remarks

The person's title. When setting, null is valid. When getting, if not specified, an empty string ("") is returned.

See Also

[Identity Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

IHealth Interface

!@#

For a list of all members of this type, see [IHealth Members](#).

public interface IHealth

Requirements

Namespace: ActionEngine.Api

Assembly: aefwapi (in aefwapi.dll)

See Also

[IHealth Members](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

IHealth Members

[IHealth overview](#)

Public Instance Methods

CheckHealth

This is called periodically to check on the health of a module.

See Also

[IHealth Interface](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

IHealth Methods

The methods of the **IHealth** interface are listed below. For a complete list of **IHealth** interface members, see the [IHealth Members](#) topic.

Public Instance Methods

CheckHealth

This is called periodically to check on the health of a module.

See Also

[IHealth Interface](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

IHealth.CheckHealth Method

This is called periodically to check on the health of a module.

Response CheckHealth();

Return Value

A Response.

Remarks

This is called periodically to check on the health of a module. Typically a HealthResponse is returned.

!@# MUCH MORE NEEDED.....

See Also

IHealth Interface | ActionEngine.Api Namespace

API Class Library

ImageResource Class

This class represents an image (graphic) resource.

For a list of all members of this type, see [ImageResource Members](#).

[System.Object](#)

Resource

BinaryResource

ImageResource

public class ImageResource : BinaryResource

Requirements

Namespace: ActionEngine.Api

Assembly: aefwapi (in aefwapi.dll)

See Also

[ImageResource Members](#) | ActionEngine.Api Namespace

API Class Library

ImageResource Members

[ImageResource overview](#)

Public Instance Constructors

ImageResource

Overloaded. Initializes a new instance of the ImageResource class.

Public Instance Methods

Equals (inherited from Object)

Determines whether the specified Object is equal to the current Object.

GetHashCode (inherited from Object)

Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.

GetType (inherited from Object)

Gets the Type of the current instance.

ToString (inherited from Resource)

This returns an XML representation of the resource.

Protected Instance Methods

Finalize (inherited from Object)

Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.

Creates a shallow copy of the current Object.

See Also

[ImageResource Class](#) | ActionEngine.Api Namespace

API Class Library

ImageResource Constructor

This constructs an image resource.

Overload List

This constructs an image resource.

public ImageResource(ResourceReference,byte[]);

This constructs an image resource.

```
public ImageResource(ResourceReference,image);
S  Als
ImageResource Class | ActionEngine.Api Namespace
```

API Class Library

ImageResource Constructor (ResourceReference, Byte[])

This constructs an image resource.

```
public ImageResource(
    ResourceReference resourceReference,
    byte[] bytes
);
```

Parameters

resourceReference

The original reference to the image.

bytes

The binary content of the image.

See Also

[ImageResource Class | ActionEngine.Api Namespace](#) | [ImageResource Constructor Overload List](#)

API Class Library

ImageResource Constructor (ResourceReference, Image)

This constructs an image resource.

```
public ImageResource(
    ResourceReference resourceReference,
    Image image
);
```

Parameters

resourceReference

The original reference to the image.

image

The image.

See Also

[ImageResource Class | ActionEngine.Api Namespace](#) | [ImageResource Constructor Overload List](#)

API Class Library

IModule Interface

This interface represents a module, which is the base interface for IAuthHandler and IService but can also represent a module on its own.

For a list of all members of this type, see [IModule Members](#).

[public interface IModule](#)

Remarks

This interface represents a module, which is the base interface for IAuthHandler and IService but can also represent a module on its own.

During start-up, all modules are loaded by the process. Then, ModuleInit is called on each one. After that, service and auth requests are processed if the IModule is an IAuthHandler or an IService.

If your plugin does any background tasks in a separate thread, make sure you register for the "die" event so you can gracefully shut down. For more information, see [DieEvents](#).

Implementing a module that is not an IAuthHandler or an IService can be useful in ways that a standard Windows service is useful, but you have the advantage of working inside the framework and can make use of a configuration file and your plugin environment.

Modules can also dynamically obtain references to other modules running in the process. There are several benefits to this model. For more information, see the class overview for `PluginEnvironment`. If a module makes use of a type (interface, class, etc.) exposed by an assembly in another plugin, a dependency needs to be set up in `install.xml`. See the example below.

To implement a module that is not an `IAuthHandler` or an `IService`:

- Create a new plugin folder.
- In the plugin folder, create a "cfg" subfolder. In the cfg folder, create an "install.xml" file. The `install.xml` file defines a component of type "module." Here is an example `install.xml` file:

```
<install>
<content> <component name="mymodule" type="module"> <class assembly="mymodule.dll"
lang=".net">MyCompany.MyModule</class> <dependencies>
<component>some_ns:some_componentOne</component>
<component>some_componentTwo</component> </dependencies> </component> </content>
<plugin> <id>mymodule</id> <namespace>abc</namespace> <version>0.1</version> </plugin>
</install>
```
- In the plugin folder, create a "dotnet" subfolder. The assembly referenced in `install.xml` is relative to this folder.
- Implement the `IModule` interface using the class name defined in `install.xml`.
- If the module makes use of a type (interface, class, etc.) exposed by an assembly in another plugin, set up a dependency to the component where the needed assembly exists by specifying its component ID. Otherwise, the process will fail to instantiate your module. Recursive dependencies are honored. In other words, if component A depends on component B, which depends on component C, component A will receive a local copy of the assemblies for both components B and C. The specified component IDs should be fully-qualified with the resource namespace. If not, the namespace of the local component is assumed, which is generally not what you want unless you are setting up a dependency between assemblies in the same plugin.

Requirements

Namespace: ActionEngine.Api

Assembly: aefwapi (in aefwapi.dll)

See Also

[IModule Members](#) | ActionEngine.Api Namespace

[API Class Library](#)

IModule Members

[IModule overview](#)

Public Instance Methods

`ModuleInit`

This is called after all modules are loaded by the process but before any auth or service requests are processed (if this module is also an `IAuthHandler` or an `IService`).

See Also

[IModule Interface](#) | ActionEngine.Api Namespace

[API Class Library](#)

IModule Methods

The methods of the `IModule` interface are listed below. For a complete list of `IModule` interface members, see the `IModule Members` topic.

Public Instance Methods

`ModuleInit`

This is called after all modules are loaded by the process but before any auth or service requests are

processed (if this module is also an IAuthHandler or an IService).

See Also

[IModule Interface | ActionEngine.Api Namespace](#)

[API Class Library](#)

IModule.ModuleInit Method

This is called after all modules are loaded by the process but before any auth or service requests are processed (if this module is also an IAuthHandler or an IService).

`void ModuleInit();`

See Also

[IModule Interface | ActionEngine.Api Namespace](#)

[API Class Library](#)

InfoRequest Class

This class represents the XML content returned by an IServiceInfo instance in response to GetInfoRequest.

For a list of all members of this type, see [InfoRequest Members](#).

`System.Object`

InfoRequest

`public class InfoRequest`

Remarks

This class represents the XML content returned by an IServiceInfo instance in response to GetInfoRequest. The framework then passes the info request to various service info instances so that each one can reply with its own info. A file called `actioninfo_cfg.xml` in the framework's cfg directory defines the relationships of services that get called to provide info. After calling GetInfo on the appropriate services, the engine aggregates each chunk of info returned into a single deck that the user sees while waiting for the "actual" request to return.

Requirements

Namespace: ActionEngine.Api

Assembly: aefwapi (in aefwapi.dll)

See Also

[InfoRequest Members | ActionEngine.Api Namespace | InfoRequestResponse | IServiceInfo](#)

[API Class Library](#)

InfoRequest Members

[InfoRequest overview](#)

Public Instance Constructors

`InfoRequest .`

Overloaded. Initializes a new instance of the InfoRequest class.

Public Instance Properties

`RootElement`

This represents the root element of the info request XML.

Public Instance Methods

`Equals (inherited from Object)`

Determines whether the specified Object is equal to

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GetHashCode (inherited from Object)	the current Object. Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.
GetType (inherited from Object) ToString	Gets the Type of the current instance. This returns an XML representation of the info request.

Protected Instance Methods

Finalize (inherited from Object)	Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.
MemberwiseClone (inherited from Object)	Creates a shallow copy of the current Object.

See Also

[InfoRequest Class](#) | [ActionEngine.Api Namespace](#) | [InfoRequestResponse](#) | [IServiceInfo](#)

[API Class Library](#)

InfoRequest Constructor

This constructs an empty info request.

Overload List

This constructs an empty info request.

`public InfoRequest();`

This constructs an info request using the given XML as its content.

`public InfoRequest(XmlElement);`

See Also

[InfoRequest Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

InfoRequest Constructor ()

This constructs an empty info request.

`public InfoRequest();`

Remarks

This constructs an empty info request. It is equivalent to calling `InfoRequest(null)`.

See Also

[InfoRequest Class](#) | [ActionEngine.Api Namespace](#) | [InfoRequest Constructor Overload List](#)

[API Class Library](#)

InfoRequest Constructor (XmlElement)

This constructs an info request using the given XML as its content.

`public InfoRequest(`

`XmlElement root`

`);`

Parameters

`root`

The XML content.

Remarks

This constructs an info request using the given XML as its content. If the XML element is null, this is interpreted by the framework to mean that no info should be collected from various services. Otherwise, the XML is passed to `GetInfo` calls on various `IServiceInfo` instances.

See Also

[InfoRequest Class](#) | [ActionEngine.Api Namespace](#) | [InfoRequest Constructor Overload List](#)

[API Class Library](#)

InfoRequest Properties

The properties of the **InfoRequest** class are listed below. For a complete list of **InfoRequest** class members, see the [InfoRequest Members](#) topic.

Public Instance Properties

RootElement	This represents the root element of the info request XML.
--------------------	---

See Also

[InfoRequest Class](#) | [ActionEngine.Api Namespace](#) | [InfoRequestResponse](#) | [IServiceInfo](#)

[API Class Library](#)

InfoRequest.RootElement Property

This represents the root element of the info request XML.

public System.Xml.XmlElement RootElement {get; set;}

Remarks

This represents the root element of the info request XML. Null is allowed, although when the framework calls `GetInfo` the root element is never null.

See Also

[InfoRequest Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

InfoRequest Methods

The methods of the **InfoRequest** class are listed below. For a complete list of **InfoRequest** class members, see the [InfoRequest Members](#) topic.

Public Instance Methods

Equals (inherited from Object)	Determines whether the specified Object is equal to the current Object.
GetHashCode (inherited from Object)	Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.
GetType (inherited from Object)	Gets the Type of the current instance.
ToString	This returns an XML representation of the info request.

Protected Instance Methods

Finalize (inherited from Object)	Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.
MemberwiseClone (inherited from Object)	Creates a shallow copy of the current Object.

See Also

[InfoRequest Class](#) | [ActionEngine.Api Namespace](#) | [InfoRequestResponse](#) | [IServiceInfo](#)

[API Class Library](#)

Info Request.T String Meth d

This returns an XML representation of the info request.

public override string ToString();

Return Value

An XML representation of the info request.

See Also

[InfoRequest Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

InfoRequest.Command Enumeration

The enumeration of valid primary commands associated with GetInfoRequest.

public enum InfoRequest.Command

Members

Member Name

DoFeatureCommand

DoSolutionCommand

SubmitConcepts

Description

A doFeatureCommand command.

A doSolutionCommand command.

A submitConcepts command.

Requirements

Namespace: ActionEngine.Api

Assembly: aefwapi (in aefwapi.dll)

See Also

[ActionEngine.Api Namespace](#)

[API Class Library](#)

InfoRequestResponse Class

This class represents an "info request" response, which is returned by GetInfoRequest.

For a list of all members of this type, see [InfoRequestResponse Members](#).

System.Object

Response

InfoRequestResponse

public class InfoRequestResponse : Response

Requirements

Namespace: ActionEngine.Api

Assembly: aefwapi (in aefwapi.dll)

See Also

[InfoRequestResponse Members](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

InfoRequestResponse Members

[InfoRequestResponse overview](#)

Public Instance Constructors

InfoRequestResponse Constructor

This constructs an "info request" response.

Public Instance Methods

Equals (inherited from Object)

Determines whether the specified Object is equal to the current Object.

GetHashCode (inherited from Object)

Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.

GetType (inherited from Object)

Gets the Type of the current instance.

ToString (inherited from Response)

This returns an XML representation of the response.

Protected Instance Methods

Finalize (inherited from Object)

Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.

MemberwiseClone (inherited from Object)

Creates a shallow copy of the current Object.

See Also

[InfoRequestResponse Class | ActionEngine.Api Namespace](#)

[API Class Library](#)

InfoRequestResponse Constructor

This constructs an "info request" response.

```
public InfoRequestResponse(  
    InfoRequest infoRequest  
)
```

Parameters

infoRequest

The info request, or null if no info request is intended.

See Also

[InfoRequestResponse Class | ActionEngine.Api Namespace](#)

[API Class Library](#)

InfoResponse Class

This class represents an info response (sometimes called an "action info" response).

For a list of all members of this type, see [InfoResponse Members](#).

System.Object

Response

InfoResponse

```
public class InfoResponse : Response
```

Remarks

This class represents an info response (sometimes called an "action info" response). This is generally returned by [GetInfo](#).

Requirements

Namespace: ActionEngine.Api

Assembly: aefwapi (in aefwapi.dll)

See Also

[InfoResponse Members | ActionEngine.Api Namespace](#)

[API Class Library](#)

InfoR sponse Members

[InfoResponse overview](#)

Public Instance Constructors

InfoResponse Constructor

This constructs an info response.

Public Instance Methods

Equals (inherited from Object)

Determines whether the specified Object is equal to the current Object.

GetHashCode (inherited from Object)

Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.

GetType (inherited from Object)

Gets the Type of the current instance.

ToString (inherited from Response)

This returns an XML representation of the response.

Protected Instance Methods

Finalize (inherited from Object)

Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.

MemberwiseClone (inherited from Object)

Creates a shallow copy of the current Object.

See Also

[InfoResponse Class](#) | [ActionEngine.Api Namespace](#)

API Class Library

InfoResponse Constructor

This constructs an info response.

```
public InfoResponse(  
    Result result  
);
```

Parameters

result

The result, which can be null if no info is intended.

See Also

[InfoResponse Class](#) | [ActionEngine.Api Namespace](#) | [GetInfo](#)

API Class Library

IService Interface

This interface represents a service plugin, which processes requests and generally returns solutions to a client for viewing by the end user.

For a list of all members of this type, see [IService Members](#).

```
public interface IService : IModule, IHealth
```

Remarks

This interface represents a service plugin, which processes requests and generally returns solutions to a client for viewing by the end user. To implement your own service:

- Create a new plugin folder.
- In the plugin folder, create a "cfg" subfolder. In the cfg folder, create an "install.xml" file with two components: one service and one feature. The feature needs to reference the service's component name. Here is an example install.xml file:
`<install> <content> <component name="myservice" type="service"> <class assembly="myservice.dll" lang=".net">MyCompany.MyService</class> </component> <component name="myfeature" type="feature"> <description>This is my feature</description> <service>myservice</service> </component> </content> <plugin> <id>myplugin</id> <namespace>abc</namespace> <version>0.1</version> </plugin> </install>`

- In the plugin folder, create a "dotnet" subfolder. The assembly referenced in install.xml is relative to this folder.
- Implement the **IService** interface using the class name defined in install.xml. If desired, also implement **IServiceInfo**.
- At a minimum, implement **SubmitConcepts**. You will most likely want to implement **DoSolutionCommand** as well. To leave a method as not implemented, just return null or a new **CodeResponse** of **E_NOT_IMPL**.

Requirements

Namespace: ActionEngine.Api

Assembly: aefwapi (in aefwapi.dll)

See Also

[IService Members](#) | [ActionEngine.Api Namespace](#) | [IServiceInfo](#)

[API Class Library](#)

IService Members

[IService overview](#)

Public Instance Methods

DoFeatureCommand	This is called to process an ex:fc() command from a client.
DoSolutionCommand	This is called to process an ex:sc() command from a client.
GetDeck	This is called to process an ex:getDeck() command from a client.
GetResources	This is called to return one or more resources to the engine.
SubmitConcepts	This is called to process concept values submitted by the client.

See Also

[IService Interface](#) | [ActionEngine.Api Namespace](#) | [IServiceInfo](#)

[API Class Library](#)

IService Methods

The methods of the **IService** interface are listed below. For a complete list of **IService** interface members, see the [IService Members](#) topic.

Public Instance Methods

DoFeatureCommand	This is called to process an ex:fc() command from a client.
DoSolutionCommand	This is called to process an ex:sc() command from a client.
GetDeck	This is called to process an ex:getDeck() command from a client.
GetResources	This is called to return one or more resources to the engine.
SubmitConcepts	This is called to process concept values submitted by the client.

See Als

[IService Interface](#) | [ActionEngine.Api Namespace](#) | [IServiceInfo](#)

API Class Library

IServic .D FeatureCommand Meth d

This is called to process an ex:fc() command from a client.

Response DoFeatureCommand(

ClientInfo clientInfo,
 User user,
 string[] args,
 DateTime scheduledMoment

);

Parameters

clientInfo

Information about the client making the request.

user

The user related to the request.

args

Zero or more arguments as defined in the ex:fc() command. This is never null.

scheduledMoment

The date/time associated with the moment in a feature schedule that caused this to be called, or NoDateTime if this is unrelated to push. Because the actual time that DoFeatureCommand is called could be much later than the intended scheduled time in some cases, such as when messages back up in the push server's queue without the client picking them up, this provides the service with the link, essentially, to the original scheduled moment. For more information, see FeatureSchedule.

Return Value

A Response.

Remarks

This is called to process an ex:fc() command from a client. Typically an answer or concepts response is returned. A "feature command" is useful for switching contexts from one plugin to another. For example, feature A can return a solution with an ex:fc() that kicks off feature B by using feature B's feature ID.

See Also

[IService Interface](#) | [ActionEngine.Api Namespace](#) | [AnswersResponse](#) | [ConceptsResponse](#)

API Class Library

IService.DoSolutionCommand Method

This is called to process an ex:sc() command from a client.

Response DoSolutionCommand(

ClientInfo clientInfo,
 User user,
 Result result,
 string[] args

);

Parameters

clientInfo

Information about the client making the request.

user

The user related to the request.

result

The result that was previously generated by the service for the current user, or null if no previous result exists.

args

Zero or more arguments as defined in the ex:sc() command. This is never null.

Return Value

A Response.

R marks

This is called to process an ex:sc() command from a client. Typically an answer or concepts response is returned.

See Also

[IService Interface](#) | [ActionEngine.Api Namespace](#) | [AnswersResponse](#) | [ConceptsResponse](#)

[API Class Library](#)

IService.GetDeck Method

This is called to process an ex:getDeck() command from a client.

Response GetDeck(

ClientInfo clientInfo,

User user,

string[] args

);

Parameters

clientInfo

Information about the client making the request.

user

The user related to the request.

args

Zero or more arguments as defined in the ex:getDeck() command. This is never null.

Return Value

A Response.

Remarks

This is called to process an ex:getDeck() command from a client. Typically a deck response is returned. Answer and concepts responses are not allowed.

See Also

[IService Interface](#) | [ActionEngine.Api Namespace](#) | [DeckResponse](#)

[API Class Library](#)

IService.GetResources Method

This is called to return one or more resources to the engine.

Response GetResources(

ClientInfo clientInfo,

ResourceReference[] resourceReferences

);

Parameters

clientInfo

Information about the client making the request.

resourceReferences

An array of one or more resource references for which the engine is requesting actual resources.

Return Value

A Response.

Remarks

This is called to return one or more resources to the engine. A resources response is expected.

See Also

[IService Interface](#) | [ActionEngine.Api Namespace](#) | [ResourcesResponse](#)

[API Class Library](#)

IService.SubmitC ncepts Meth d

This is called to process concept values submitted by the client.

Response SubmitConcepts(
 ClientInfo *clientInfo*,
 User *user*,
 Result *result*,
 ConceptValues *conceptValues*
);

Parameters

clientInfo

Information about the client making the request.

user

The user related to the request.

result

The result that was previously generated by the service for the current user, or null if no previous result exists. Submitting dynamic concepts is the only time a previous result might exist.

conceptValues

The concept values posted by the client.

Return Value

A Response.

Remarks

This is called to process concept values submitted by the client. Typically an answer or concepts response is returned.

See Also

[IService Interface](#) | [ActionEngine.Api Namespace](#) | [AnswersResponse](#) | [ConceptsResponse](#)

[API Class Library](#)

IServiceInfo Interface

This interface represents "info" related functionality (sometimes called "action info") for a service.

For a list of all members of this type, see [IServiceInfo Members](#).

[public interface IServiceInfo](#)

Remarks

This interface represents "info" related functionality (sometimes called "action info") for a service. If your service does not involve info, there is no need to implement this. If your service provides chunks of info that the engine aggregates into a single deck, implement the GetInfo method. If your service is called to drive the collection of other info, implement GetInfoRequest and set up the actioninfo_cfg.xml file appropriately. For more information on the latter, see InfoRequest.

Requirements

Namespace: ActionEngine.Api

Assembly: aefwapi (in aefwapi.dll)

See Also

[IServiceInfo Members](#) | [ActionEngine.Api Namespace](#) | [InfoRequest](#)

[API Class Library](#)

IServiceInfo Members

[IServiceInfo overview](#)

Public Instance Methods

[GetInfo](#)

This is called to retrieve info, which is potentially aggregated with info from other services and returned to the user while waiting for an "actual" request.

[GetInfoRequest](#)

This is called to determine if a service will drive the collection of info from other services.

See Also

[IServicelInfo Interface](#) | [ActionEngine.Api Namespace](#) | [InfoRequest](#)

[API Class Library](#)

IServicelInfo Methods

The methods of the **IServicelInfo** interface are listed below. For a complete list of **IServicelInfo** interface members, see the [IServicelInfo Members](#) topic.

Public Instance Methods

GetInfo	This is called to retrieve info, which is potentially aggregated with info from other services and returned to the user while waiting for an "actual" request.
GetInfoRequest	This is called to determine if a service will drive the collection of info from other services.

See Also

[IServicelInfo Interface](#) | [ActionEngine.Api Namespace](#) | [InfoRequest](#)

[API Class Library](#)

IServicelInfo.GetInfo Method

This is called to retrieve info, which is potentially aggregated with info from other services and returned to the user while waiting for an "actual" request.

Response GetInfo(

ClientInfo clientInfo,

User user,

InfoRequest infoRequest

);

Parameters

clientInfo

Information about the client making the request.

user

The user related to the request.

infoRequest

The info request. This is originally generated by [GetInfoRequest](#) and then passed to various services to retrieve and aggregate various info.

Return Value

A Response.

Remarks

This is called to retrieve info, which is potentially aggregated with info from other services and returned to the user while waiting for an "actual" request. Typically an [InfoResponse](#) is returned. To leave the method as not implemented, return null or a code response of [E_NOT_IMPL](#).

See Also

[IServicelInfo Interface](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

IServicelInfo.GetInfoRequest Method

This is called to determine if a service will drive the collection of info from other services.

Response GetInfoRequest(

ClientInfo clientInfo,

User *user*,
ConceptValues *conceptValues*,
Command *primaryCommand*
);

Parameters

clientInfo

Information about the client making the request.

user

The user related to the request.

conceptValues

The concept values posted by the client.

primaryCommand

The "actual" command that the client initiated.

Return Value

A Response.

Remarks

This is called to determine if a service will drive the collection of info from other services. Typically a InfoRequestResponse is returned. To leave the method as not implemented, return null or a code response of E_NOT_IMPL.

See Also

[IServiceInfo Interface](#) | ActionEngine.Api Namespace

[API Class Library](#)

Message Class

This class represents a message.

For a list of all members of this type, see [Message Members](#).

System.Object

Message

public class Message

Remarks

This class represents a message. Messages are generally displayed on the client as a pop-up dialog.

Requirements

Namespace: ActionEngine.Api

Assembly: aefwapi (in aefwapi.dll)

See Also

[Message Members](#) | ActionEngine.Api Namespace

[API Class Library](#)

Message Members

[Message overview](#)

Public Instance Constructors

Message

Overloaded. Initializes a new instance of the Message class.

Public Instance Methods

Equals (inherited from Object)

Determines whether the specified Object is equal to the current Object.

GetHashCode (inherited from Object)

Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.

GetType (inherited from Object)
ToString

Gets the Type of the current instance.
This returns an XML representation of the message.

Protected Instance Methods

Finalize (inherited from Object)

Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.

MemberwiseClone (inherited from Object)

Creates a shallow copy of the current Object.

See Also

[Message Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

Message Constructor

This constructs a new message with no header and a severity of Misc.

Overload List

This constructs a new message with no header and a severity of Misc.

`public Message(string);`

This constructs a new message with no header.

`public Message(string,Severity);`

This constructs a new message with a severity of Misc.

`public Message(string,string);`

This constructs a new message.

`public Message(string,string,Severity);`

See Also

[Message Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

Message Constructor (String)

This constructs a new message with no header and a severity of Misc.

`public Message(`

`string text`

`);`

Parameters

`text`

The message text.

See Also

[Message Class](#) | [ActionEngine.Api Namespace](#) | [Message Constructor Overload List](#)

[API Class Library](#)

Message Constructor (String, String)

This constructs a new message with a severity of Misc.

`public Message(`

`string text,`

`string header`

`);`

Parameters

`text`

The message text.

header

The message header. Some clients display the header at the top of a dialog box, but this is optional (pass null).

See Also

[Message Class](#) | [ActionEngine.Api Namespace](#) | [Message Constructor Overload List](#)

[API Class Library](#)

Message Constructor (String, Severity)

This constructs a new message with no header.

```
public Message(  
    string text,  
    Severity severity  
)
```

Parameters

text

The message text.

severity

The message severity. Severity is interpreted by some clients to affect the icon in a message box dialog.

See Also

[Message Class](#) | [ActionEngine.Api Namespace](#) | [Message Constructor Overload List](#)

[API Class Library](#)

Message Constructor (String, String, Severity)

This constructs a new message.

```
public Message(  
    string text,  
    string header,  
    Severity severity  
)
```

Parameters

text

The message text.

header

The message header. Some clients display the header at the top of a dialog box, but this is optional (pass null).

severity

The message severity. Severity is interpreted by some clients to affect the icon in a message box dialog.

See Also

[Message Class](#) | [ActionEngine.Api Namespace](#) | [Message Constructor Overload List](#)

[API Class Library](#)

Message Methods

The methods of the **Message** class are listed below. For a complete list of **Message** class members, see the [Message Members](#) topic.

Public Instance Methods

Equals (inherited from Object)

Determines whether the specified Object is equal to the current Object.

GetHashCode (inherited from Object)

Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.

GetType (inherited from Object)	Gets the Type of the current instance.
ToString	This returns an XML representation of the message.

Protected Instance Methods

Finalize (inherited from Object)	Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.
MemberwiseClone (inherited from Object)	Creates a shallow copy of the current Object.

See Also

[Message Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

Message.ToString Method

This returns an XML representation of the message.

public override string ToString();

Return Value

An XML representation of the message.

See Also

[Message Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

Message.Severity Enumeration

The enumeration of message severities.

public enum Message.Severity

Members

Member Name

Error

Misc

Description

An error message.

A miscellaneous (informational) message.

Requirements

Namespace: ActionEngine.Api

Assembly: aefwapi (in aefwapi.dll)

See Also

[ActionEngine.Api Namespace](#)

[API Class Library](#)

MessageResponse Class

This class represents a message response.

For a list of all members of this type, see [MessageResponse Members](#).

System.Object

Response

MessageResponse

public class MessageResponse : Response

Remarks

This class represents a message response. Messages are generally displayed on the client as a pop-up dialog.

Requirements

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Namespace: ActionEngine.Api
Assembly: aefwapi (in aefwapi.dll)

S e Als

[MessageResponse Members](#) | [ActionEngine.Api Namespace](#) | [Message](#)

API Class Library

MessageResponse Members

[MessageResponse overview](#)

Public Instance Constructors

MessageResponse Constructor

This constructs a message response.

Public Instance Methods

Equals (inherited from Object)

Determines whether the specified Object is equal to the current Object.

GetHashCode (inherited from Object)

Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.

GetType (inherited from Object)

Gets the Type of the current instance.

ToString (inherited from Response)

This returns an XML representation of the response.

Protected Instance Methods

Finalize (inherited from Object)

Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.

MemberwiseClone (inherited from Object)

Creates a shallow copy of the current Object.

See Also

[MessageResponse Class](#) | [ActionEngine.Api Namespace](#) | [Message](#)

API Class Library

MessageResponse Constructor

This constructs a message response.

public MessageResponse(

 Message *message*

);

Parameters

message

The message, which cannot be null.

See Also

[MessageResponse Class](#) | [ActionEngine.Api Namespace](#)

API Class Library

Phone Class

This class represents a phone number.

For a list of all members of this type, see [Phone Members](#).

System.Object

FriendlyData

Phone

public class Phone : FriendlyData

Requirements

Namespace: ActionEngine.Api

Assembly: aefwapi (in aefwapi.dll)

See Also

[Phone Members](#) | [ActionEngine.Api Namespace](#) | [Phones](#)

[API Class Library](#)

Phone Members

[Phone overview](#)

Public Instance Constructors

Phone Constructor

This constructs a phone entry.

Public Instance Properties

FriendlyName (inherited from **FriendlyData**)

The friendly name of the user data.

Number

The phone number itself.

PhoneType

The type of phone number.

Public Instance Methods

Equals (inherited from **Object**)

Determines whether the specified Object is equal to the current Object.

GetHashCode (inherited from **Object**)

Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.

GetType (inherited from **Object**)

Gets the Type of the current instance.

ToString

This returns an XML representation of the phone entry.

Protected Instance Methods

Finalize (inherited from **Object**)

Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.

Creates a shallow copy of the current Object.

See Also

[Phone Class](#) | [ActionEngine.Api Namespace](#) | [Phones](#)

[API Class Library](#)

Phone Constructor

This constructs a phone entry.

```
public Phone(  
    string friendlyName,  
    string number  
)
```

Parameters

friendlyName

The friendly name of the phone number.

number

The phone number itself.

See Also

[Phone Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

Phone Properties

The properties of the **Phone** class are listed below. For a complete list of **Phone** class members, see the [Phone Members](#) topic.

Public Instance Properties

FriendlyName (inherited from **FriendlyData**)

The friendly name of the user data.

Number

The phone number itself.

PhoneType

The type of phone number.

See Also

[Phone Class](#) | [ActionEngine.Api Namespace](#) | [Phones](#)

[API Class Library](#)

Phone.Number Property

The phone number itself.

public string Number {get; set;}

See Also

[Phone Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

Phone.PhoneType Property

The type of phone number.

public Phone.Type PhoneType {get; set;}

See Also

[Phone Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

Phone Methods

The methods of the **Phone** class are listed below. For a complete list of **Phone** class members, see the [Phone Members](#) topic.

Public Instance Methods

Equals (inherited from **Object**)

Determines whether the specified Object is equal to the current Object.

GetHashCode (inherited from **Object**)

Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.

GetType (inherited from **Object**)

Gets the Type of the current instance.

ToString

This returns an XML representation of the phone entry.

Protected Instance Methods

Finalize (inherited from **Object**)

Allows an Object to attempt to free resources and

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	perform other cleanup operations before the Object is reclaimed by garbage collection. Creates a shallow copy of the current Object.
MemberwiseClone (inherited from Obj ct)	

See Also

[Phone Class](#) | [ActionEngine.Api Namespace](#) | [Phones](#)

[API Class Library](#)

Phone.ToString Method

This returns an XML representation of the phone entry.

public override string ToString();

Return Value

An XML representation of the phone entry.

See Also

[Phone Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

Phone.Type Enumeration

The enumeration of valid phone types.

public enum Phone.Type

Members

Member Name	Description
Cell	A cell/mobile phone.
Land	A land line phone (non-mobile).
Unknown	An unknown or unspecified phone type.

Requirements

Namespace: ActionEngine.Api

Assembly: aefwapi (in aefwapi.dll)

See Also

[ActionEngine.Api Namespace](#)

[API Class Library](#)

Phones Class

This class represents a collection of Phone objects.

For a list of all members of this type, see [Phones Members](#).

[System.Object](#)

[FriendlyDataSet](#)

Phones

public class Phones : FriendlyDataSet

Requirements

Namespace: ActionEngine.Api

Assembly: aefwapi (in aefwapi.dll)

See Also

[Phones Members](#) | [ActionEngine.Api Namespace](#) | [Phone](#)

[API Class Library](#)

Phones Members

[Phones overview](#)

Public Instance Constructors

Phones Constructor

This constructs an empty collection of phones.

Public Instance Properties

GetPrimary

This retrieves the primary phone entry of the collection.

Item

This retrieves a phone entry by the given friendly name.

Public Instance Methods

Add

This adds a phone entry to the collection.
Determines whether the specified Object is equal to the current Object.

GetEnumerator (inherited from FriendlyDataSet)

This returns an IEnumerator for enumerating the collection of friendly data.

GetHashCode (inherited from Object)

Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.

GetType (inherited from Object)

Gets the Type of the current instance.

Remove

This removes the phone entry with the given friendly name.

SetPrimary (inherited from FriendlyDataSet)

This sets the primary friendly data for the collection.

ToString (inherited from FriendlyDataSet)

This returns an XML representation of the friendly data set.

Protected Instance Methods

Finalize (inherited from Object)

Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.

Creates a shallow copy of the current Object.

See Also

[Phones Class](#) | [ActionEngine.Api Namespace](#) | [Phone](#)

[API Class Library](#)

Phones Constructor

This constructs an empty collection of phones.

`public Phones();`

See Also

[Phones Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

Phones Properties

The properties of the **Phones** class are listed below. For a complete list of **Phones** class members, see the [Phones Members topic](#).

Public Instance Properties

GetPrimary

This retrieves the primary phone entry of the

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Item

collection.

This retrieves a phone entry by the given friendly name.

See Also

[Phones Class](#) | [ActionEngine.Api Namespace](#) | [Phone](#)

[API Class Library](#)

Phones.GetPrimary Property

This retrieves the primary phone entry of the collection.

`public Phone GetPrimary {get;}`

Remarks

This retrieves the primary phone entry of the collection. If the collection is empty, null is returned.

See Also

[Phones Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

Phones.Item Property

This retrieves a phone entry by the given friendly name.

`public Phone this[
 string friendlyName
] {get;}`

Remarks

This retrieves a phone entry by the given friendly name. If none is found, null is returned.

See Also

[Phones Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

Phones Methods

The methods of the **Phones** class are listed below. For a complete list of **Phones** class members, see the [Phones Members](#) topic.

Public Instance Methods

[Add](#)

This adds a phone entry to the collection.

[Equals \(inherited from Object\)](#)

Determines whether the specified Object is equal to the current Object.

[GetEnumerator \(inherited from FriendlyDataSet\)](#)

This returns an IEnumerator for enumerating the collection of friendly data.

[GetHashCode \(inherited from Object\)](#)

Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.

[GetType \(inherited from Object\)](#)

Gets the Type of the current instance.

[Remove](#)

This removes the phone entry with the given friendly name.

[SetPrimary \(inherited from FriendlyDataSet\)](#)

This sets the primary friendly data for the collection.

[ToString \(inherited from FriendlyDataSet\)](#)

This returns an XML representation of the friendly data set.

Protected Instance Methods

[Finalize \(inherited from Object\)](#)

Allows an Object to attempt to free resources and

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	perform other cleanup operations before the Object is reclaimed by garbage collection. Creates a shallow copy of the current Object.
MemberwiseClone (inherited from Object)	

See Also

[Phones Class](#) | [ActionEngine.Api Namespace](#) | [Phone](#)

[API Class Library](#)

Phones.Add Method

This adds a phone entry to the collection.

public void Add(

 Phone phone

);

Parameters

phone

The phone entry to add to the collection.

See Also

[Phones Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

Phones.Remove Method

This removes the phone entry with the given friendly name.

public Phone Remove(

 string friendlyName

);

Parameters

friendlyName

The friendly name of the phone to remove.

Return Value

The phone removed is returned, or null if not found.

Remarks

This removes the phone entry with the given friendly name. If the phone entry is not found, no action is taken. If the phone entry removed was primary, a new one is selected.

See Also

[Phones Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

PluginEnvironment Class

This class represents various aspects of a plugin's environment.

For a list of all members of this type, see [PluginEnvironment Members](#).

[System.Object](#)

PluginEnvironment

public class PluginEnvironment

Remarks

This class represents various aspects of a plugin's environment. For example, you can discover your plugin's home directory, obtain a reference to your configuration file, and obtain references to other neighboring .NET assemblies running in the process.

Any .NET component with a main class that implements [IModule](#) can be obtained dynamically by calling one of the [GetModules](#) methods of this class. During start-up, all modules are loaded before any service, task, or auth handler requests are processed, and also before [ModuleInit](#) is called. If you want to request an [IModule](#) during your module's start-up, don't do so in the static constructor of your main class because

not all modules are guaranteed to be loaded by then. Instead, wait until `ModuleInit` is called. One situation where dynamically obtaining modules is useful is in creating a library of common code shared by multiple modules. You could create a component of type module, expose one or more interfaces on its main class, and allow other modules in other plugins to use it. Another situation where this is useful is in creating a service/vendor type of model. A component of type service could be developed that calls into one or more vendors to do the work where each vendor is abstracted by the same interface. Each vendor, implemented as a separate component of type module, would implement an interface exposed publicly by the service module. After a vendor's `ModuleInit` method is called (not before--see above), it would call into the service to register itself.

Requirements

Namespace: ActionEngine.Api

Assembly: aefwapi (in aefwapi.dll)

See Also

[PluginEnvironment Members](#) | [ActionEngine.Api Namespace](#)

API Class Library

PluginEnvironment Members

[PluginEnvironment overview](#)

Public Static Methods

`GetInstance`

This returns an instance of the class.

`GetModules`

Overloaded. This returns all running modules in the process.

Public Static Events

`DieEvents`

This event is fired when it's time to shut down the module.

Public Instance Properties

`ComponentId`

This returns the fully-qualified component ID of the module as defined in the plugin's `install.xml` file.

`ConfigFile`

This returns the plugin's configuration file.

`HomeDirectory`

This returns the plugin's home directory, including the terminating backslash.

`PluginId`

This returns the plugin ID as defined in the plugin's `install.xml` file.

Public Instance Methods

`Equals` (inherited from `Object`)

Determines whether the specified `Object` is equal to the current `Object`.

`GetHashCode` (inherited from `Object`)

Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.

`GetType` (inherited from `Object`)
`ToString` (inherited from `Object`)

Gets the Type of the current instance.

Returns a String that represents the current Object.

Protected Instance Methods

`Finalize` (inherited from `Object`)

Allows an `Object` to attempt to free resources and perform other cleanup operations before the `Object`

MemberwiseClone (inherited from Object) is reclaimed by garbage collection.
Creates a shallow copy of the current Object.

See Also

[PluginEnvironment Class | ActionEngine.Api Namespace](#)

[API Class Library](#)

PluginEnvironment Properties

The properties of the **PluginEnvironment** class are listed below. For a complete list of **PluginEnvironment** class members, see the [PluginEnvironment Members](#) topic.

Public Instance Properties

ComponentId	This returns the fully-qualified component ID of the module as defined in the plugin's install.xml file.
ConfigFile	This returns the plugin's configuration file.
HomeDirectory	This returns the plugin's home directory, including the terminating backslash.
PluginId	This returns the plugin ID as defined in the plugin's install.xml file.

See Also

[PluginEnvironment Class | ActionEngine.Api Namespace](#)

[API Class Library](#)

PluginEnvironment.ComponentId Property

This returns the fully-qualified component ID of the module as defined in the plugin's install.xml file.
public string ComponentId {get;}

See Also

[PluginEnvironment Class | ActionEngine.Api Namespace](#)

[API Class Library](#)

PluginEnvironment.ConfigFile Property

This returns the plugin's configuration file.

public ConfigFile ConfigFile {get;}

Remarks

This returns the plugin's configuration file. A non-null object is returned regardless of a physical config file existing. See [Exists](#).

See Also

[PluginEnvironment Class | ActionEngine.Api Namespace](#)

[API Class Library](#)

PluginEnvironment.HomeDirectory Property

This returns the plugin's home directory, including the terminating backslash.

public string HomeDirectory {get;}

Remarks

This returns the plugin's home directory, including the terminating backslash. For example, a plugin called "widget" might have a home directory called C:\aeserver\plugins\widget\.

See Also

[PluginEnvironment Class | ActionEngine.Api Namespace](#)

API Class Library

PluginEnvironment.PluginId Property

This returns the plugin ID as defined in the plugin's install.xml file.

public string PluginId {get;}

See Also

PluginEnvironment Class | ActionEngine.Api Namespace

API Class Library

PluginEnvironment Methods

The methods of the **PluginEnvironment** class are listed below. For a complete list of **PluginEnvironment** class members, see the **PluginEnvironment Members** topic.

Public Static Methods

GetInstance

This returns an instance of the class.

GetModules

Overloaded. This returns all running modules in the process.

Public Instance Methods

Equals (inherited from Object)

Determines whether the specified Object is equal to the current Object.

GetHashCode (inherited from Object)

Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.

GetType (inherited from Object)

Gets the Type of the current instance.

ToString (inherited from Object)

Returns a String that represents the current Object.

Protected Instance Methods

Finalize (inherited from Object)

Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.

MemberwiseClone (inherited from Object)

Creates a shallow copy of the current Object.

See Also

PluginEnvironment Class | ActionEngine.Api Namespace

API Class Library

PluginEnvironment.GetInstance Method

This returns an instance of the class.

public static PluginEnvironment GetInstance(
 IModule module
)

Parameters

module

The module.

Return Value

An instance of the class.

See Also

PluginEnvironment Class | ActionEngine.Api Namespace

API Class Library

PluginEnvironment.GetModules Method d

This returns all running modules in the process.

Overload List

This returns all running modules in the process.

`public static IModule[] GetModules();`

This returns all running modules in the process filtered by namespace (optional) and interface name (optional).

`public static IModule[] GetModules(string,Type);`

See Also

[PluginEnvironment Class](#) | [ActionEngine.Api Namespace](#)

API Class Library

PluginEnvironment.GetModules Method ()

This returns all running modules in the process.

`public static IModule[] GetModules();`

Return Value

An array of IModule, potentially zero in length but never null.

Remarks

This returns all running modules in the process. See the class overview for more information.

See Also

[PluginEnvironment Class](#) | [ActionEngine.Api Namespace](#) | [PluginEnvironment.GetModules Overload List](#)

API Class Library

PluginEnvironment.GetModules Method (String, Type)

This returns all running modules in the process filtered by namespace (optional) and interface name (optional).

`public static IModule[] GetModules(`

`string namespace,`

`Type interface`

`);`

Parameters

`namespace`

The namespace to search for the modules, or null to consider all namespaces. Note that this represents the namespace of the modules being searched, not of the interface.

`interface`

The desired interface, or null for all interfaces.

Return Value

An array of IModule, potentially zero in length but never null.

Remarks

This returns all running modules in the process filtered by namespace (optional) and interface name (optional). The namespace is a .NET namespace, not to be confused with the framework's user and resource namespaces. See the class overview for more information.

In this C# example, all modules that exist in the MyCompany.Util namespace are returned that support ISomeInterface. `IModule[] modules = PluginEnvironment.GetModules("MyCompany.Util", typeof(ISomeInterface));`

See Also

[PluginEnvironment Class](#) | [ActionEngine.Api Namespace](#) | [PluginEnvironment.GetModules Overload List](#)

API Class Library

PluginEnvironment Events

The events of the **PluginEnvironment** class are listed below. For a complete list of **PluginEnvironment** class members, see the [PluginEnvironment Members](#) topic.

Public Static Events

DieEvents	This event is fired when it's time to shut down the module.
-----------	---

See Also

[PluginEnvironment Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

PluginEnvironment.DieEvents Event

This event is fired when it's time to shut down the module.

public static event DieHandler DieEvents;

Remarks

This event is fired when it's time to shut down the module. This is useful if your module has any background threads that need to be told to die to enable graceful shutdown.

See Also

[PluginEnvironment Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

RequestProcessor Class

This class is for internal use only.

For a list of all members of this type, see [RequestProcessor Members](#).

[System.Object](#)

RequestProcessor

public abstract class RequestProcessor

Requirements

Namespace: ActionEngine.Api

Assembly: aefwapi (in aefwapi.dll)

See Also

[RequestProcessor Members](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

RequestProcessor Members

[RequestProcessor overview](#)

Public Static Methods

Die	This is for internal use only.
FlushCaches	This is for internal use only.
Process	This is for internal use only.
Start	This is for internal use only.

Public Instance Methods

Equals (inherited from Object)	Determines whether the specified Object is equal to the current Object.
GetHashCode (inherited from Object)	Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.

GetType (inherited from Object) Gets the Type of the current instance.
ToString (inherited from Object) Returns a String that represents the current Object.

Protected Instance Constructors

RequestProcessor Constructor

Protected Instance Methods

Finalize (inherited from Object) Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.

MemberwiseClone (inherited from Object) Creates a shallow copy of the current Object.

See Also

[RequestProcessor Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

RequestProcessor Constructor

protected RequestProcessor();

See Also

[RequestProcessor Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

RequestProcessor Methods

The methods of the **RequestProcessor** class are listed below. For a complete list of **RequestProcessor** class members, see the [RequestProcessor Members](#) topic.

Public Static Methods

Die

This is for internal use only.

FlushCaches

This is for internal use only.

Process

This is for internal use only.

Start

This is for internal use only.

Public Instance Methods

Equals (inherited from Object)

Determines whether the specified Object is equal to the current Object.

GetHashCode (inherited from Object)

Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.

GetType (inherited from Object)

Gets the Type of the current instance.

ToString (inherited from Object)

Returns a String that represents the current Object.

Protected Instance Methods

Finalize (inherited from Object)

Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.

Creates a shallow copy of the current Object.

See Also

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[RequestProcessor Class | ActionEngine.Api Namespace](#)

API Class Library

RequestProcessor.Die Method

This is for internal use only.

public static void Die();

See Also

[RequestProcessor Class | ActionEngine.Api Namespace](#)

API Class Library

RequestProcessor.FlushCaches Method

This is for internal use only.

public static void FlushCaches();

See Also

[RequestProcessor Class | ActionEngine.Api Namespace](#)

API Class Library

RequestProcessor.Process Method

This is for internal use only.

public static string Process(

 int *componentType*,
 string *assemblyPath*,
 string *className*,
 string *request*

);

See Also

[RequestProcessor Class | ActionEngine.Api Namespace](#)

API Class Library

RequestProcessor.Start Method

This is for internal use only.

public static void Start();

See Also

[RequestProcessor Class | ActionEngine.Api Namespace](#)

API Class Library

Resource Class

This is the base class for all types of resources.

For a list of all members of this type, see [Resource Members](#).

[System.Object](#)

Resource

public abstract class Resource

Requirements

Namespace: ActionEngine.Api

Assembly: aefwapi (in aefwapi.dll)

See Also

[Resource Members | ActionEngine.Api Namespace | ResourcesResponse](#)

API Class Library

Resource Members

Resource overview

Public Instance Methods

Equals (inherited from Object)

Determines whether the specified Object is equal to the current Object.

GetHashCode (inherited from Object)

Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.

GetType (inherited from Object)

Gets the Type of the current instance.

ToString

This returns an XML representation of the resource.

Protected Instance Methods

Finalize (inherited from Object)

Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.

MemberwiseClone (inherited from Object)

Creates a shallow copy of the current Object.

See Also

[Resource Class](#) | [ActionEngine.Api Namespace](#) | [ResourcesResponse](#)

[API Class Library](#)

Resource Methods

The methods of the **Resource** class are listed below. For a complete list of **Resource** class members, see the Resource Members topic.

Public Instance Methods

Equals (inherited from Object)

Determines whether the specified Object is equal to the current Object.

GetHashCode (inherited from Object)

Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.

GetType (inherited from Object)

Gets the Type of the current instance.

ToString

This returns an XML representation of the resource.

Protected Instance Methods

Finalize (inherited from Object)

Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.

MemberwiseClone (inherited from Object)

Creates a shallow copy of the current Object.

See Also

[Resource Class](#) | [ActionEngine.Api Namespace](#) | [ResourcesResponse](#)

[API Class Library](#)

Resource.ToString Method

This returns an XML representation of the resource.

public override string ToString();

Return Value

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An XML representation of the resource.
See Also
[Resource Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

Resource.Type Enumeration
The enumeration of valid resource types.
`public enum Resource.Type`

Members

Member Name	Description
<code>Binary</code>	An binary resource.
<code>Image</code>	An image (graphic) resource.

Requirements
Namespace: ActionEngine.Api
Assembly: aefwapi (in aefwapi.dll)
See Also
[ActionEngine.Api Namespace](#)

[API Class Library](#)

ResourceReference Class
This class represents a resource reference, which is a description or "pointer" to an actual resource.
For a list of all members of this type, see [ResourceReference Members](#).

`System.Object`

ResourceReference
`public class ResourceReference`

Remarks

This class represents a resource reference, which is a description or "pointer" to an actual resource. References are created by the service and added to the result returned to the engine. Later, when the engine calls GetResources, one or more resource references are passed as an argument.

Requirements

Namespace: ActionEngine.Api
Assembly: aefwapi (in aefwapi.dll)
See Also
[ResourceReference Members](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

ResourceReference Members
[ResourceReference overview](#)
Public Instance Constructors

`ResourceReference Constructor` This constructs a resource reference.

Public Instance Properties

<code>Cookie</code>	The cookie associated with the GetResources protocol.
<code>Id</code>	The resource ID, chosen by the service.
<code>Type</code>	The type of resource.

Public Instance Methods

Equals (inherited from Object)	Determines whether the specified Object is equal to the current Object.
GetHashCode (inherited from Object)	Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.
GetType (inherited from Object)	Gets the Type of the current instance.
ToString (inherited from Object)	Returns a String that represents the current Object.

Protected Instance Methods

Finalize (inherited from Object)	Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.
MemberwiseClone (inherited from Object)	Creates a shallow copy of the current Object.

See Also

[ResourceReference Class | ActionEngine.Api Namespace](#)

[API Class Library](#)

ResourceReference Constructor

This constructs a resource reference.

public ResourceReference(

 Type *type*,
 string *id*,
 Priority *fetchPriority*,
 Protocol *protocol*,
 string *protocolData*

);

Parameters

type

The resource type.

id

The resource ID, chosen by the service.

fetchPriority

The engine's priority for fetching the resource.

protocol

The protocol for fetching the resource.

protocolData

The data associated with the protocol. If `HttpGet`, this is the URL that the engine follows. If `GetResources`, this is a cookie (optional, can be null) that the engine eventually passes back to the service when calling `GetResources`.

Exceptions

Exception Type

`ArgumentException`

Condition

This is thrown when the protocol data is invalid.

See Also

[ResourceReference Class | ActionEngine.Api Namespace](#)

[API Class Library](#)

ResourceReference Properties

The properties of the `ResourceReference` class are listed below. For a complete list of `ResourceReference` class members, see the [ResourceReference Members](#) topic.

Public Instance Properties

Cookie	The cookie associated with the <code>GetResources</code> protocol.
Id	The resource ID, chosen by the service.
Type	The type of resource.

See Also

[ResourceReference Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

ResourceReference.Cookie Property

The cookie associated with the `GetResources` protocol.

`public string Cookie {get;}`

Remarks

The cookie associated with the `GetResources` protocol. When a cookie is provided in a resource reference in a result returned to the engine, the engine passes it back when calling `GetResources`.

See Also

[ResourceReference Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

ResourceReference.Id Property

The resource ID, chosen by the service.

`public string Id {get;}`

See Also

[ResourceReference Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

ResourceReference.Type Property

The type of resource.

`public Resource.Type Type {get;}`

See Also

[ResourceReference Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

ResourceReference.Priority Enumeration

The enumeration of resource fetching priorities.

`public enum ResourceReference.Priority`

Remarks

The enumeration of resource fetching priorities. When a resource reference is included in a result returned to the engine, the priority determines when the engine will fetch the actual resource. If `ClientDriven`, the resource is not fetched until the client makes a request for it. All other priorities, however, cause the engine to initiate resource fetching in the background. Then, when the client needs the resource, it will often be pre-fetched in the engine's cache resulting in better performance for the end user.

The only difference between Low, Medium, and High is that the order in which resources are fetched and cached is done from highest to lowest.

M mbers

Member Name	Description
ClientDriven	The client initiates the fetching of the resource.
Low	The engine pre-fetches the resource with a low priority.
Medium	The engine pre-fetches the resource with a medium priority.
High	The engine pre-fetches the resource with a high priority.

Requirements

Namespace: ActionEngine.Api

Assembly: aefwapi (in aefwapi.dll)

See Also

ActionEngine.Api Namespace

API Class Library

ResourceReference.Protocol Enumeration

The enumeration of resource fetching protocols.

public enum ResourceReference.Protocol

Members

Member Name	Description
GetResources	The engine calls GetResources to retrieve the resource.
HttpGet	The engine performs an HTTP "get" to retrieve the resource.

Requirements

Namespace: ActionEngine.Api

Assembly: aefwapi (in aefwapi.dll)

See Also

ActionEngine.Api Namespace

API Class Library

ResourcesResponse Class

This class represents a response of zero or more resources.

For a list of all members of this type, see ResourcesResponse Members.

System.Object

 Response

ResourcesResponse

public class ResourcesResponse : Response

Remarks

This class represents a response of zero or more resources. It is used in reply to GetResources.

Requirements

Namespace: ActionEngine.Api

Assembly: aefwapi (in aefwapi.dll)

See Also

ResourcesResponse Members | ActionEngine.Api Namespace

API Class Library

ResourcesResponse Members

ResourcesResponse overview

Public Instance Constructors

ResourcesResponse

Overloaded. Initializes a new instance of the ResourcesResponse class.

Public Instance Methods

AppendResource

This appends a resource to the current list.
Determines whether the specified Object is equal to the current Object.

Equals (inherited from Object)

Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.

GetHashCode (inherited from Object)

Gets the Type of the current instance.

GetType (inherited from Object)

This returns an XML representation of the response.

ToString (inherited from Response)

Protected Instance Methods

Finalize (inherited from Object)

Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.

MemberwiseClone (inherited from Object)

Creates a shallow copy of the current Object.

See Also

ResourcesResponse Class | ActionEngine.Api Namespace

API Class Library

ResourcesResponse Constructor

This constructs an empty resources response.

Overload List

This constructs an empty resources response.

public ResourcesResponse();

This constructs a response with one resource.

public ResourcesResponse(Resource);

This constructs a resources response using the given resources.

public ResourcesResponse(Resource[]);

See Also

ResourcesResponse Class | ActionEngine.Api Namespace

API Class Library

ResourcesResponse Constructor ()

This constructs an empty resources response.

public ResourcesResponse();

See Also

ResourcesResponse Class | ActionEngine.Api Namespace | ResourcesResponse Constructor Overload List

API Class Library

ResourcesResponse Constructor (Resource)

This constructs a response with one resource.

```
public ResourcesResponse(  
    Resource resource  
)
```

Parameters

resource

The resource. If null, an empty resources response is constructed.

See Also

[ResourcesResponse Class](#) | [ActionEngine.Api Namespace](#) | [ResourcesResponse Constructor Overload List](#)

[API Class Library](#)

ResourcesResponse Constructor (Resource[])

This constructs a resources response using the given resources.

```
public ResourcesResponse(  
    Resource[] resources  
)
```

Parameters

resources

The resources, which cannot be null.

See Also

[ResourcesResponse Class](#) | [ActionEngine.Api Namespace](#) | [ResourcesResponse Constructor Overload List](#)

[API Class Library](#)

ResourcesResponse Methods

The methods of the **ResourcesResponse** class are listed below. For a complete list of **ResourcesResponse** class members, see the [ResourcesResponse Members](#) topic.

Public Instance Methods

[AppendResource](#)

This appends a resource to the current list.

[Equals \(inherited from Object\)](#)

Determines whether the specified Object is equal to the current Object.

[GetHashCode \(inherited from Object\)](#)

Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.

[GetType \(inherited from Object\)](#)

Gets the Type of the current instance.

[ToString \(inherited from Response\)](#)

This returns an XML representation of the response.

Protected Instance Methods

[Finalize \(inherited from Object\)](#)

Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.

[MemberwiseClone \(inherited from Object\)](#)

Creates a shallow copy of the current Object.

See Also

[ResourcesResponse Class](#) | [ActionEngine.Api Namespace](#)

API Class Library

ResourcesResponse.AppendResource Method

This appends a resource to the current list.

```
public void AppendResource(  
    Resource resource  
)
```

Parameters

resource
The resource, which cannot be null.

See Also

[ResourcesResponse Class](#) | [ActionEngine.Api Namespace](#)

API Class Library

Response Class

This is the base class for various responses sent to the engine.

For a list of all members of this type, see [Response Members](#).

[System.Object](#)

Response

```
public abstract class Response
```

Requirements

Namespace: ActionEngine.Api

Assembly: aefwapi (in aefwapi.dll)

See Also

[Response Members](#) | [ActionEngine.Api Namespace](#)

API Class Library

Response Members

[Response overview](#)

Public Instance Methods

Equals (inherited from Object)

Determines whether the specified Object is equal to the current Object.

Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.

Gets the Type of the current instance.

This returns an XML representation of the response.

GetType (inherited from Object)

[ToString](#)

Protected Instance Methods

Finalize (inherited from Object)

Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.

Creates a shallow copy of the current Object.

MemberwiseClone (inherited from Object)

See Also

[Response Class](#) | [ActionEngine.Api Namespace](#)

API Class Library

Response Methods

The methods of the **Response** class are listed below. For a complete list of **Response** class members, see the Response Members topic.

Public Instance Methods

Equals (inherited from Object)	Determines whether the specified Object is equal to the current Object.
GetHashCode (inherited from Object)	Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.
GetType (inherited from Object)	Gets the Type of the current instance.
ToString	This returns an XML representation of the response.

Protected Instance Methods

Finalize (inherited from Object)	Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.
MemberwiseClone (inherited from Object)	Creates a shallow copy of the current Object.

See Also

[Response Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

Response.ToString Method

This returns an XML representation of the response.

public override string ToString();

Return Value

An XML representation of the response.

See Also

[Response Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

Result Class

This class represents a result for managing state in your plugin as well as providing input to various XSLT transformations.

For a list of all members of this type, see Result Members.

System.Object

Result

public class Result

Remarks

This class represents a result for managing state in your plugin as well as providing input to various XSLT transformations. The contents of the document can have any structure you want with two exceptions:

1. A child element of the root called fw is reserved for use by the framework.
2. Child elements of the root called rsc are reserved for describing resource references.

Requirements

Namespace: ActionEngine.Api

Assembly: aefwapi (in aefwapi.dll)

See Also

[Result Members](#) | [ActionEngine.Api Namespace](#) | [AnswersResponse](#) | [ConceptsResponse](#)

API Class Library

Result Members

Result overview

Public Static Fields

ROOT_NAME

The name of the root element for any result XML.

Public Instance Constructors

Result

Overloaded. Initializes a new instance of the Result class.

Public Instance Properties

RootElement

This represents the root element of the result XML.

Public Instance Methods

AppendResourceReference

This appends a resource reference to the result.
Determines whether the specified Object is equal to the current Object.

Equals (inherited from Object)

Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.

GetHashCode (inherited from Object)

Gets the Type of the current instance.

GetType (inherited from Object)

This returns a string representation of the result XML.

ToString

Protected Instance Methods

Finalize (inherited from Object)

Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.

MemberwiseClone (inherited from Object)

Creates a shallow copy of the current Object.

See Also

[Result Class](#) | [ActionEngine.Api Namespace](#) | [AnswersResponse](#) | [ConceptsResponse](#)

API Class Library

Result Constructor

This constructs an empty result.

Overload List

This constructs an empty result.

`public Result();`

This constructs a result from the given XML.

`public Result(string);`

This constructs a result from the given XML.

`public Result(XmlElement);`

See Also

[Result Class](#) | [ActionEngine.Api Namespace](#)

API Class Library

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Result Constructor ()

This constructs an empty result.

public Result();

See Also

[Result Class](#) | [ActionEngine.Api Namespace](#) | [Result Constructor Overload List](#)

[API Class Library](#)

Result Constructor (String)

This constructs a result from the given XML.

public Result(

string xml

);

Parameters

xml

The result XML, or null for an empty result.

Remarks

This constructs a result from the given XML. The name of the root element must be ROOT_NAME.

Exceptions

Exception Type

ApplicationException

Condition

This is thrown when the name of the root element is not ROOT_NAME.

XmlException

This is thrown when a load or parse error occurs.

See Also

[Result Class](#) | [ActionEngine.Api Namespace](#) | [Result Constructor Overload List](#)

[API Class Library](#)

Result Constructor (XmlElement)

This constructs a result from the given XML.

public Result(

XmlElement root

);

Parameters

root

The root element of the result.

Remarks

This constructs a result from the given XML. The name of the root element must be ROOT_NAME.

Exceptions

Exception Type

ApplicationException

Condition

This is thrown when the name of the root element is not ROOT_NAME.

See Also

[Result Class](#) | [ActionEngine.Api Namespace](#) | [Result Constructor Overload List](#)

[API Class Library](#)

Result Fields

The fields of the **Result** class are listed below. For a complete list of **Result** class members, see the

Result Members topic.

Public Static Fields

ROOT_NAME	The name of the root element for any result XML.
-----------	--

See Also

[Result Class](#) | [ActionEngine.Api Namespace](#) | [AnswersResponse](#) | [ConceptsResponse](#)

[API Class Library](#)

Result.ROOT_NAME Field

The name of the root element for any result XML.

public const string ROOT_NAME;

See Also

[Result Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

Result Properties

The properties of the **Result** class are listed below. For a complete list of **Result** class members, see the Result Members topic.

Public Instance Properties

RootElement	This represents the root element of the result XML.
-------------	---

See Also

[Result Class](#) | [ActionEngine.Api Namespace](#) | [AnswersResponse](#) | [ConceptsResponse](#)

[API Class Library](#)

Result.RootElement Property

This represents the root element of the result XML.

public System.Xml.XmlElement RootElement {get; set;}

Remarks

This represents the root element of the result XML. Null is never allowed or returned. The name of the root element must be ROOT_NAME.

Exceptions

Exception Type	Condition
ApplicationException	This is thrown when the root element name doesn't match ROOT_NAME.

See Also

[Result Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

Result Methods

The methods of the **Result** class are listed below. For a complete list of **Result** class members, see the Result Members topic.

Public Instance Methods

AppendResourceReference Equals (inherited from Object)	This appends a resource reference to the result. Determines whether the specified Object is equal to
---	---

GetHashCode (inherited from Object)	the current Object. Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.
GetType (inherited from Object) ToString	Gets the Type of the current instance. This returns a string representation of the result XML.

Protected Instance Methods

Finalize (inherited from Object)	Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.
MemberwiseClone (inherited from Object)	Creates a shallow copy of the current Object.

See Also

[Result Class](#) | [ActionEngine.Api Namespace](#) | [AnswersResponse](#) | [ConceptsResponse](#)

[API Class Library](#)

Result.AppendResourceReference Method

This appends a resource reference to the result.
public void AppendResourceReference(

 ResourceReference *resourceReference*
);

Parameters

resourceReference

The resource reference.

See Also

[Result Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

Result.ToString Method

This returns a string representation of the result XML.

public override string ToString();

Return Value

A string representation of the result XML.

See Also

[Result Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

SupportedAuthDataResponse Class

This class represents the categories of data supported by the authentication plugin.

For a list of all members of this type, see [SupportedAuthDataResponse Members](#).

System.Object

Response

SupportedAuthDataResponse

public class SupportedAuthDataResponse : Response

Remarks

This class represents the categories of data supported by the authentication plugin. When a plugin declares a certain category to be supported (or "owned"), the framework delegates management of that data category to the plugin instead of managing the data itself. For example, if a plugin supports the

Identity category, the framework will periodically call the plugin to retrieve a user's identity or to modify one or more aspects of it (such as a person's last name).

Requirements

Namespace: ActionEngine.Api

Assembly: aefwapi (in aefwapi.dll)

See Also

[SupportedAuthDataResponse Members](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

SupportedAuthDataResponse Members

[SupportedAuthDataResponse overview](#)

Public Instance Constructors

[SupportedAuthDataResponse Constructor](#)

This constructs a response based on the given data.

Public Instance Methods

[Equals \(inherited from Object\)](#)

Determines whether the specified Object is equal to the current Object.

[GetHashCode \(inherited from Object\)](#)

Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.

[GetType \(inherited from Object\)](#)

Gets the Type of the current instance.

[ToString \(inherited from Response\)](#)

This returns an XML representation of the response.

Protected Instance Methods

[Finalize \(inherited from Object\)](#)

Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.

[MemberwiseClone \(inherited from Object\)](#)

Creates a shallow copy of the current Object.

See Also

[SupportedAuthDataResponse Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

SupportedAuthDataResponse Constructor

This constructs a response based on the given data.

public SupportedAuthDataResponse(

Data supported

);

Parameters

supported

The supported data. To support more than one category, "or" them together.

See Also

[SupportedAuthDataResponse Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

Support dAuthDataResponse.Data Enumeration

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The enumeration of valid data categories.
**public enum SupportedAuthDataResponse.Data
Members**

Member Name
AddressesAndCards

Description
Addresses and credit cards are supported. The two categories are linked because credit cards depend on addresses.

Emails
Identity
LogOn

E-mail addresses are supported.
Identities (people's names) are supported.
Whenever a user requires authentication, LogOn is called regardless of your support for Password. In the case of supporting LogOn but not Password, the framework calls your LogOn method, then authenticates the password itself. Supporting both LogOn and Password is equivalent to just supporting Password.

Password
Phones
SignupConcepts
SilentSignup

Password management is supported.
Phone numbers are supported.
Custom sign-up concepts are supported.
The process of silently signing up is supported.

Requirements

Namespace: ActionEngine.Api
Assembly: aefwapi (in aefwapi.dll)

See Also

ActionEngine.Api Namespace

[API Class Library](#)

ThreadStorage Class

This class manages framework-related storage for the current thread, and provides a way to spawn new threads while passing along the parent's thread storage.

For a list of all members of this type, see ThreadStorage Members.

System.Object

ThreadStorage

public class ThreadStorage

Remarks

This class manages framework-related storage for the current thread, and provides a way to spawn new threads while passing along the parent's thread storage.

Because thread-local storage is used by the framework, IT IS CRITICAL that your plugin calls CreateThread to create all new threads. Otherwise, any threads you spawn on your own won't have storage that's needed by the framework, such as trace information.

Requirements

Namespace: ActionEngine.Api
Assembly: aefwapi (in aefwapi.dll)

See Also

ThreadStorage Members | ActionEngine.Api Namespace | Tracer

[API Class Library](#)

ThreadStorage Members

ThreadStorage overview

Public Static Methods

CreateThread

This creates and starts a Thread using the given delegate.

Public Instance Methods

Equals (inherited from Object)

Determines whether the specified Object is equal to the current Object.

GetHashCode (inherited from Object)

Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.

GetType (inherited from Object)

Gets the Type of the current instance.

ToString (inherited from Object)

Returns a String that represents the current Object.

Protected Instance Methods

Finalize (inherited from Object)

Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.

MemberwiseClone (inherited from Object)

Creates a shallow copy of the current Object.

See Also

[ThreadStorage Class](#) | [ActionEngine.Api Namespace](#) | [Tracer](#)

[API Class Library](#)

ThreadStorage Methods

The methods of the **ThreadStorage** class are listed below. For a complete list of **ThreadStorage** class members, see the [ThreadStorage Members](#) topic.

Public Static Methods

CreateThread

This creates and starts a Thread using the given delegate.

Public Instance Methods

Equals (inherited from Object)

Determines whether the specified Object is equal to the current Object.

GetHashCode (inherited from Object)

Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.

GetType (inherited from Object)

Gets the Type of the current instance.

ToString (inherited from Object)

Returns a String that represents the current Object.

Protected Instance Methods

Finalize (inherited from Object)

Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.

MemberwiseClone (inherited from Object)

Creates a shallow copy of the current Object.

See Also

[ThreadStorage Class](#) | [ActionEngine.Api Namespace](#) | [Tracer](#)

API Class Library

ThreadStorage.CreateThread Method

This creates and starts a Thread using the given delegate.

public static Thread CreateThread(

ThreadStart start

);

Parameters

start

The method that executes on the new thread.

Return Value

The new running thread.

Remarks

This creates and starts a Thread using the given delegate. The new thread's local storage is set up based on the parent's thread storage, and the running thread is returned.

See Also

[ThreadStorage Class](#) | [ActionEngine.Api Namespace](#)

API Class Library

Tracer Class

This class is used to add trace information to the response sent to the engine.

For a list of all members of this type, see [Tracer Members](#).

System.Object

Tracer

public abstract class Tracer

Remarks

This class is used to add trace information to the response sent to the engine. The engine then places the trace information in a trace queue, and in some environments the queue is dumped into a database where the administration web site allows browsing of the data.

When you make calls to trace, the information is added to thread-local storage until a reply is sent to the engine. Because thread-local storage is used, and because there is nothing stopping you from spawning your own threads, IT IS CRITICAL that you use the ThreadStorage class to create all new threads you need to use. Otherwise, any threads you spawn will not retain trace information.

Requirements

Namespace: ActionEngine.Api

Assembly: aefwapi (in aefwapi.dll)

See Also

[Tracer Members](#) | [ActionEngine.Api Namespace](#) | [ThreadStorage](#)

API Class Library

Tracer Members

Tracer overview

Public Static Properties

WriteDirect

This affects whether individual traces accumulate in a buffer, or if each trace is written directly to the trace queue.

Public Static Methods

Trace

Overloaded. This traces the given information.

Public Instance Methods

Equals (inherited from Object)	Determines whether the specified Object is equal to the current Object.
GetHashCode (inherited from Object)	Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.
GetType (inherited from Object)	Gets the Type of the current instance.
ToString (inherited from Object)	Returns a String that represents the current Object.

Protected Instance Constructors

Tracer Constructor

Protected Instance Methods

Finalize (inherited from Object)	Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.
MemberwiseClone (inherited from Object)	Creates a shallow copy of the current Object.

See Also

[Tracer Class](#) | [ActionEngine.Api Namespace](#) | [ThreadStorage](#)

[API Class Library](#)

Tracer Constructor

protected Tracer();

See Also

[Tracer Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

Tracer Properties

The properties of the **Tracer** class are listed below. For a complete list of **Tracer** class members, see the [Tracer Members](#) topic.

Public Static Properties

WriteDirect	This affects whether individual traces accumulate in a buffer, or if each trace is written directly to the trace queue.
-------------	---

See Also

[Tracer Class](#) | [ActionEngine.Api Namespace](#) | [ThreadStorage](#)

[API Class Library](#)

Tracer.WriteDirect Property

This affects whether individual traces accumulate in a buffer, or if each trace is written directly to the trace queue.

public static bool WriteDirect {get; set;}

Remarks

In general, plugins will not need to set this value. By default, most commands that a plugin processes come from the engine in which case using buffered tracing is highly desired to enable trace "squeezing" in

the engine when a successful transaction occurs.

However, there are times when writing directly to the trace queue is desired. If your plugin spawns a long-running background thread unrelated to a user-initiated command, setting WriteDirect to true *in that thread* will ensure any tracing done by that thread will write directly to the trace queue.

Note that this setting affects thread local storage and is therefore inherited by child threads when calling ThreadStorage.CreateThread.

See Also

[Tracer Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

Tracer Methods

The methods of the **Tracer** class are listed below. For a complete list of **Tracer** class members, see the [Tracer Members](#) topic.

Public Static Methods

Trace

Overloaded. This traces the given information.

Public Instance Methods

Equals (inherited from Object)

Determines whether the specified Object is equal to the current Object.

GetHashCode (inherited from Object)

Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.

GetType (inherited from Object)

Gets the Type of the current instance.

ToString (inherited from Object)

Returns a String that represents the current Object.

Protected Instance Methods

Finalize (inherited from Object)

Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.

MemberwiseClone (inherited from Object)

Creates a shallow copy of the current Object.

See Also

[Tracer Class](#) | [ActionEngine.Api Namespace](#) | [ThreadStorage](#)

[API Class Library](#)

Tracer.Trace Method

This traces the given information.

Overload List

This traces the given information.

`public static void Trace(object,Level,string);`

This traces the given information.

`public static void Trace(object,Exception);`

This traces the given information.

`public static void Trace(string,Level,string);`

This traces the given information.

`public static void Trace(string,Exception);`

See Also

[Tracer Class](#) | [ActionEngine.Api Namespace](#)

API Class Library

Tracer.Trace Method (Object, Level, String)

This traces the given information.

```
public static void Trace(  
    object module,  
    Level level,  
    string message  
)
```

Parameters

module

The module doing the tracing.

level

The level assigned to the trace message.

message

The message to trace.

See Also

[Tracer Class](#) | [ActionEngine.Api Namespace](#) | [Tracer.Trace Overload List](#)

API Class Library

Tracer.Trace Method (Object, Exception)

This traces the given information.

```
public static void Trace(  
    object module,  
    Exception exception  
)
```

Parameters

module

The module doing the tracing.

exception

The exception to trace.

See Also

[Tracer Class](#) | [ActionEngine.Api Namespace](#) | [Tracer.Trace Overload List](#)

API Class Library

Tracer.Trace Method (String, Level, String)

This traces the given information.

```
public static void Trace(  
    string moduleName,  
    Level level,  
    string message  
)
```

Parameters

moduleName

The name of the module doing the tracing.

level

The level assigned to the trace message.

message

The message to trace.

S Also

[Tracer Class](#) | [ActionEngine.Api Namespace](#) | [Tracer.Trace Overload List](#)

API Class Library

Tracer.Trace Method (String, Exception)

This traces the given information.

```
public static void Trace(  
    string moduleName,  
    Exception exception  
)
```

Parameters

moduleName

The name of the module doing the tracing.

exception

The exception to trace.

See Also

[Tracer Class](#) | [ActionEngine.Api Namespace](#) | [Tracer.Trace Overload List](#)

API Class Library

Tracer.Level Enumeration

The enumeration of valid trace levels.

```
public enum Tracer.Level
```

Members

Member Name

Debug

Error

Misc

Perf

Warning

Description

Debug information.

Error information.

Miscellaneous information.

Performance-related information, such as an activity taking an unusually long time.

Warning information.

Requirements

Namespace: ActionEngine.Api

Assembly: aefwapi (in aefwapi.dll)

See Also

[ActionEngine.Api Namespace](#)

API Class Library

User Class

This class represents an end user of the framework.

For a list of all members of this type, see [User Members](#).

System.Object

User

```
public class User
```

Requirements

Namespace: ActionEngine.Api

Assembly: aefwapi (in aefwapi.dll)

See Also

[User Members](#) | [ActionEngine.Api Namespace](#)

API Class Library

User Members

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User overview

Public Instance Properties

Addresses	The user's addresses.
CreditCards	The user's credit cards.
Devices	The user's client devices.
Emails	The user's e-mail addresses.
Handle	A time-sensitive handle.
Identity	The user's identity (first name, last name, etc.).
Password	The user's password.
Phones	The user's phone numbers.
UserName	The user's user name.

Public Instance Methods

Equals (inherited from Object)	Determines whether the specified Object is equal to the current Object.
GetHashCode (inherited from Object)	Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.
GetType (inherited from Object)	Gets the Type of the current instance.
ToString (inherited from Object)	Returns a String that represents the current Object.

Protected Instance Methods

Finalize (inherited from Object)	Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.
MemberwiseClone (inherited from Object)	Creates a shallow copy of the current Object.

See Also

[User Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

User Properties

The properties of the **User** class are listed below. For a complete list of **User** class members, see the [User Members](#) topic.

Public Instance Properties

Addresses	The user's addresses.
CreditCards	The user's credit cards.
Devices	The user's client devices.
Emails	The user's e-mail addresses.
Handle	A time-sensitive handle.
Identity	The user's identity (first name, last name, etc.).
Password	The user's password.
Phones	The user's phone numbers.
UserName	The user's user name.

See Also

[User Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

User.Addresses Property

The user's addresses.

public Addresses Addresses {get;}

Remarks

This is never null.

See Also

[User Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

User.CreditCards Property

The user's credit cards.

public CreditCards CreditCards {get;}

Remarks

This is never null.

See Also

[User Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

User.Devices Property

The user's client devices.

public Devices Devices {get;}

Remarks

This is never null.

See Also

[User Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

User.Emails Property

The user's e-mail addresses.

public Emails Emails {get;}

Remarks

This is never null.

See Also

[User Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

User.Handle Property

A time-sensitive handle.

public string Handle {get;}

See Also

[User Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

User.Identity Property

The user's identity (first name, last name, etc.).

public Identity Identity {get;}

Remarks

This is never null.

See Also

[User Class](#) | [ActionEngine.Api Namespace](#)

API Class Library

User.Password Property

The user's password.

public string Password {get;}

Remarks

The password is null when not provided by the framework.

See Also

[User Class](#) | [ActionEngine.Api Namespace](#)

API Class Library

User.Phones Property

The user's phone numbers.

public Phones Phones {get;}

Remarks

This is never null.

See Also

[User Class](#) | [ActionEngine.Api Namespace](#)

API Class Library

User.UserName Property

The user's user name.

public UserName UserName {get;}

Remarks

This is never null.

See Also

[User Class](#) | [ActionEngine.Api Namespace](#)

API Class Library

UserDataResponse Class

This class represents a user data response.

For a list of all members of this type, see [UserDataResponse Members](#).

System.Object

 Response

UserDataResponse

public class UserDataResponse : Response

Remarks

This class represents a user data response. By default, all properties on this class are set to null.

Requirements

Namespace: ActionEngine.Api

Assembly: aefwapi (in aefwapi.dll)

See Also

[UserDataResponse Members](#) | [ActionEngine.Api Namespace](#) | [GetUserData](#)

API Class Library

UserDataResponse Members

[UserDataResponse overview](#)

Public Instance Constructors

UserDataContract Constructor This constructs an empty user data response.

Public Instance Properties

Addresses	The user's addresses.
CreditCards	The user's credit cards.
Emails	The user's e-mail addresses.
Identity	The user's identity.
Phones	The user's phone entries.

Public Instance Methods

Equals (inherited from Object)	Determines whether the specified Object is equal to the current Object.
GetHashCode (inherited from Object)	Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.
GetType (inherited from Object)	Gets the Type of the current instance.
ToString (inherited from Response)	This returns an XML representation of the response.

Protected Instance Methods

Finalize (inherited from Object)	Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.
MemberwiseClone (inherited from Object)	Creates a shallow copy of the current Object.

See Also

[UserDataContract Class](#) | [ActionEngine.Api Namespace](#) | [GetUserData](#)

[API Class Library](#)

UserDataContract Constructor

This constructs an empty user data response.

`public UserDataContract();`

See Also

[UserDataContract Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

UserDataContract Properties

The properties of the **UserDataContract** class are listed below. For a complete list of **UserDataContract** class members, see the [UserDataContract Members](#) topic.

Public Instance Properties

Addresses	The user's addresses.
CreditCards	The user's credit cards.
Emails	The user's e-mail addresses.
Identity	The user's identity.
Phones	The user's phone entries.

See Also

[UserDataResponse Class](#) | [ActionEngine.Api Namespace](#) | [GetUserData](#)

API Class Library

UserDataResponse.Addresses Property

The user's addresses.

public Addresses Addresses {get; set;}

Remarks

The user's addresses. Can be null.

See Also

[UserDataResponse Class](#) | [ActionEngine.Api Namespace](#)

API Class Library

UserDataResponse.CreditCards Property

The user's credit cards.

public CreditCards CreditCards {get; set;}

Remarks

The user's credit cards. Can be null.

See Also

[UserDataResponse Class](#) | [ActionEngine.Api Namespace](#)

API Class Library

UserDataResponse.Emails Property

The user's e-mail addresses.

public Emails Emails {get; set;}

Remarks

The user's e-mail addresses. Can be null.

See Also

[UserDataResponse Class](#) | [ActionEngine.Api Namespace](#)

API Class Library

UserDataResponse.Identity Property

The user's identity.

public Identity Identity {get; set;}

Remarks

The user's identity. Can be null.

See Also

[UserDataResponse Class](#) | [ActionEngine.Api Namespace](#)

API Class Library

UserDataResponse.Phones Property

The user's phone entries.

public Phones Phones {get; set;}

Remarks

The user's phone entries. Can be null.

See Also

[UserDataResponse Class](#) | [ActionEngine.Api Namespace](#)

API Class Library

Us rDocument Class

This class provides functionality for processing user documents.

For a list of all members of this type, see [UserDocument Members](#).

[System.Object](#)

UserDocument

public abstract class UserDocument

Remarks

This class provides functionality for processing user documents. A user document is a string stored per user. Documents are referenced by a document ID and password.

For security reasons, documents cannot be created through this class. To create a document, use the administration web site to create a new document ID and password. Or, to automate the creation of documents at plugin install time, add one or more <userDoc> sections to install.xml as follows:

```
<install> <userDoc id="My Doc 1" password="My Password 1" /> <userDoc id="My Doc 2" password="My Password 2" /> ...etc... </install>
```

Using the install.xml-based approach, when the plugin is installed, if a document with the given document ID already exists, no action is taken. If the document ID does not exist, it is created and assigned the given password.

Because user documents are defined solely by a document ID and password, they can be shared across plugins and namespaces.

Requirements

Namespace: ActionEngine.Api

Assembly: aefwapi (in aefwapi.dll)

See Also

[UserDocument Members](#) | [ActionEngine.Api Namespace](#) | [UserDocumentException](#)

[API Class Library](#)

UserDocument Members

[UserDocument overview](#)

Public Static Methods

[DeleteDocument](#)

This deletes a user document.

[GetDocument](#)

This retrieves a user document.

[SetDocument](#)

This sets a document for a user.

[SetDocumentPassword](#)

This sets the password for a document ID.

Public Instance Methods

[Equals \(inherited from Object\)](#)

Determines whether the specified Object is equal to the current Object.

[GetHashCode \(inherited from Object\)](#)

Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.

[GetType \(inherited from Object\)](#)

Gets the Type of the current instance.

[ToString \(inherited from Object\)](#)

Returns a String that represents the current Object.

Protected Instance Constructors

[UserDocument Constructor](#)

Protected Instance Methods

[Finalize \(inherited from Object\)](#)

Allows an Object to attempt to free resources and

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MemberwiseClone (inherited from **Object**)

perform other cleanup operations before the Object is reclaimed by garbage collection.
Creates a shallow copy of the current Object.

See Also

[UserDocument Class](#) | [ActionEngine.Api Namespace](#) | [UserDocumentException](#)

[API Class Library](#)

UserDocument Constructor

protected UserDocument();

See Also

[UserDocument Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

UserDocument Methods

The methods of the **UserDocument** class are listed below. For a complete list of **UserDocument** class members, see the [UserDocument Members](#) topic.

Public Static Methods

[DeleteDocument](#)

This deletes a user document.

[GetDocument](#)

This retrieves a user document.

[SetDocument](#)

This sets a document for a user.

[SetDocumentPassword](#)

This sets the password for a document ID.

Public Instance Methods

[Equals \(inherited from Object\)](#)

Determines whether the specified Object is equal to the current Object.

[GetHashCode \(inherited from Object\)](#)

Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.

[GetType \(inherited from Object\)](#)

Gets the Type of the current instance.

[ToString \(inherited from Object\)](#)

Returns a String that represents the current Object.

Protected Instance Methods

[Finalize \(inherited from Object\)](#)

Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.

[MemberwiseClone \(inherited from Object\)](#)

Creates a shallow copy of the current Object.

See Also

[UserDocument Class](#) | [ActionEngine.Api Namespace](#) | [UserDocumentException](#)

[API Class Library](#)

UserDocument.DeleteDocument Method

This deletes a user document.

public static void DeleteDocument(

```
    string docId,  
    string docPassword  
,
```

);

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Parameters

docId

The document ID.

docPassword

The document password.

Exceptions

Exception Type

UserDocumentException

Condition

This is thrown when a document-related error occurs.

See Also

[UserDocument Class | ActionEngine.Api Namespace](#)

[API Class Library](#)

UserDocument.GetDocument Method

This retrieves a user document.

public static string GetDocument(

```
    string docId,  
    string docPassword,  
    UserName userName,  
    string userHandle
```

);

Parameters

docId

The document ID.

docPassword

The document password.

userName

The user name.

userHandle

The user's handle. See Handle.

Return Value

The document, or the empty string "" if the user has no instance of the document.

Remarks

This retrieves a user document. If the document definition exists but the user has no instance of the document, an empty string "" is returned.

Exceptions

Exception Type

UserDocumentException

Condition

This is thrown when a document-related error occurs.

See Also

[UserDocument Class | ActionEngine.Api Namespace](#)

[API Class Library](#)

UserDocument.SetDocument Method

This sets a document for a user.

public static void SetDocument(

```
    string docId,  
    string docPassword,
```

UserName *userName*,
string *userHandle*,
string *doc*

);

Parameters

docId

The document ID.

docPassword

The document password.

userName

The user name.

userHandle

The user's handle. See Handle.

doc

The document content.

Remarks

This sets a document for a user. The document ID and password must already exist by creating it using the administration web site or by install.xml.

Exceptions

Exception Type	Condition
UserDocumentException	This is thrown when a document-related error occurs.

See Also

[UserDocument Class | ActionEngine.Api Namespace](#)

[API Class Library](#)

UserDocument.SetDocumentPassword Method

This sets the password for a document ID.

public static void SetDocumentPassword(

 string *docId*,
 string *docPassword*,
 string *newPassword*

);

Parameters

docId

The document ID.

docPassword

The old document password.

newPassword

The new document password.

Remarks

This sets the password for a document ID. The existing password, docPassword, must match in order to have authority to set the new password.

Exceptions

Exception Type	Condition
UserDocumentException	This is thrown when a document-related error occurs.

See Also

[UserDocument Class | ActionEngine.Api Namespace](#)

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API Class Library

UserDocumentException Class

This exception class relates to the processing of user documents.

For a list of all members of this type, see UserDocumentException Members.

System.Object

Exception

ApplicationException

UserDocumentException

public class UserDocumentException : ApplicationException

Requirements

Namespace: ActionEngine.Api

Assembly: aefwapi (in aefwapi.dll)

See Also

[UserDocumentException Members](#) | [ActionEngine.Api Namespace](#) | [UserDocument](#)

API Class Library

UserDocumentException Members

UserDocumentException overview

Public Instance Properties

HelpLink (inherited from **Exception**)

Gets or sets a link to the help file associated with this exception.

InnerException (inherited from **Exception**)

Gets the Exception instance that caused the current exception.

Message

The text of the user document error message.

Source (inherited from **Exception**)

Gets or sets the name of the application or the object that causes the error.

StackTrace (inherited from **Exception**)

Gets a string representation of the frames on the call stack at the time the current exception was thrown.

TargetSite (inherited from **Exception**)

Gets the method that throws the current exception.

TheCode

The error code of the user document error.

Public Instance Methods

Equals (inherited from **Object**)

Determines whether the specified Object is equal to the current Object.

GetBaseException (inherited from **Exception**)

When overridden in a derived class, returns the Exception that is the root cause of one or more subsequent exceptions.

GetHashCode (inherited from **Object**)

Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.

GetObjectData (inherited from **Exception**)

When overridden in a derived class, sets the SerializationInfo with information about the exception.

GetType (inherited from **Object**)

Gets the Type of the current instance.

ToString (inherited from **Exception**)

Creates and returns a string representation of the current exception.

Protected Instance Properties

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HResult (inherited from [Exception](#))

Gets or sets HRESULT, a coded numerical value that is assigned to a specific exception.

Protected Instance Methods

Finalize (inherited from [Object](#))

Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.

MemberwiseClone (inherited from [Object](#))

Creates a shallow copy of the current Object.

See Also

[UserDocumentException Class](#) | [ActionEngine.Api Namespace](#) | [UserDocument](#)

[API Class Library](#)

UserDocumentException Properties

The properties of the **UserDocumentException** class are listed below. For a complete list of **UserDocumentException** class members, see the [UserDocumentException Members](#) topic.

Public Instance Properties

HelpLink (inherited from [Exception](#))

Gets or sets a link to the help file associated with this exception.

InnerException (inherited from [Exception](#))

Gets the Exception instance that caused the current exception.

Message

The text of the user document error message.

Source (inherited from [Exception](#))

Gets or sets the name of the application or the object that causes the error.

StackTrace (inherited from [Exception](#))

Gets a string representation of the frames on the call stack at the time the current exception was thrown.

TargetSite (inherited from [Exception](#))

Gets the method that throws the current exception.

TheCode

The error code of the user document error.

Protected Instance Properties

HResult (inherited from [Exception](#))

Gets or sets HRESULT, a coded numerical value that is assigned to a specific exception.

See Also

[UserDocumentException Class](#) | [ActionEngine.Api Namespace](#) | [UserDocument](#)

[API Class Library](#)

UserDocumentException.Message Property

The text of the user document error message.

public override string Message {get;}

See Also

[UserDocumentException Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

UserDocum ntException.Th Cod Property

The error code of the user document error.

```
public UserDocumentException.Code TheCode {get;}  
See Also  
UserDocumentException Class | ActionEngine.Api Namespace
```

[API Class Library](#)

UserDocumentException.Code Enumeration

The enumeration of error codes related to this exception.

```
public enum UserDocumentException.Code
```

Members

Member Name	Description
E_BAD_DOC_ID_OR_PASSWORD	The document ID or password is invalid.
E_BAD_NEW_PASSWORD	The new password is invalid.
E_BAD_USER_NAME_OR_HANDLE	The user name or handle is invalid.
E_DOC_EXISTS	The document already exists.
E_FAIL	A generic error was encountered.

Requirements

Namespace: ActionEngine.Api

Assembly: aefwapi (in aefwapi.dll)

See Also

[ActionEngine.Api Namespace](#)

[API Class Library](#)

UserName Class

This class represents a user name.

For a list of all members of this type, see [UserName Members](#).

[System.Object](#)

UserName

```
public class UserName
```

Remarks

This class represents a user name. The "long" version of a user name includes the user's namespace. The "short" version does not.

The long user name is typically more useful because it is unique per server installation, regardless of the number of user namespaces installed. Long user names are not displayed to end users.

The short user name is appropriate for showing to end users, but is not guaranteed to be unique across all namespaces.

Requirements

Namespace: ActionEngine.Api

Assembly: aefwapi (in aefwapi.dll)

See Also

[UserName Members](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

UserName Members

[UserName overview](#)

Public Instance Constructors

UserName	Overloaded. Initializes a new instance of the UserName class.
--------------------------	---

Public Instance Properties

Long	The long user name, which includes the user namespace.
Namespace	The user namespace.
Short	The short user name, which includes no user namespace.

Public Instance Methods

Equals (inherited from Object)	Determines whether the specified Object is equal to the current Object.
GetHashCode (inherited from Object)	Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.
GetType (inherited from Object)	Gets the Type of the current instance.
ToString (inherited from Object)	Returns a String that represents the current Object.

Protected Instance Methods

Finalize (inherited from Object)	Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.
MemberwiseClone (inherited from Object)	Creates a shallow copy of the current Object.

See Also

[UserName Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

UserName Constructor

This constructs a UserName from the given long user name.

Overload List

This constructs a UserName from the given long user name.

`public UserName(string);`

This constructs a UserName from the given namespace and short user name.

`public UserName(string,string);`

See Also

[UserName Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

UserName Constructor (String)

This constructs a UserName from the given long user name.

```
public UserName(  
    string longUserName  
)
```

Parameters

`longUserName`

The long user name, which includes the user namespace.

See Also

[UserName Class](#) | [ActionEngine.Api Namespace](#) | [UserName Constructor Overload List](#)

[API Class Library](#)

UserName Constructor (String, String)

This constructs a UserName from the given namespace and short user name.

```
public UserName(  
    string namespace,  
    string shortUserName  
);
```

Parameters

namespace

The user namespace.

shortUserName

The short user name, which includes no user namespace.

See Also

[UserName Class](#) | [ActionEngine.Api Namespace](#) | [UserName Constructor Overload List](#)

[API Class Library](#)

UserName Properties

The properties of the **UserName** class are listed below. For a complete list of **UserName** class members, see the [UserName Members](#) topic.

Public Instance Properties

Long	The long user name, which includes the user namespace.
Namespace	The user namespace.
Short	The short user name, which includes no user namespace.

See Also

[UserName Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

UserName.Long Property

The long user name, which includes the user namespace.

```
public string Long {get;}
```

See Also

[UserName Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

UserName.Namespace Property

The user namespace.

```
public string Namespace {get;}
```

See Also

[UserName Class](#) | [ActionEngine.Api Namespace](#)

[API Class Library](#)

UserName.Short Property

The short user name, which includes no user namespace.

```
public string Short {get;}
```

See Also

[UserName Class](#) | [ActionEngine.Api Namespace](#)

API Class Library

ActionEngine.Api.Schedule Namespace

Namespace hierarchy

Classes

Class	Description
DailyMoment	This class represents a moment that occurs at a certain time on certain days of the week.
DailyRecurring	This class represents a moment that occurs every N minutes, bounded by a start time and duration, on certain days of the week.
FeatureSchedule	This class represents a feature schedule.
MonthlyMoment	This class represents a moment that occurs at a certain time once a month.
Schedule	This class represents a schedule of one-time and recurring moments.
Scheduler	This class is responsible for managing schedules related to tasks and feature commands.
TaskSchedule	This class represents a task schedule.

Interfaces

Interface	Description
ITask	This interface represents a task, which is called into by the framework based on a schedule.

Enumerations

Enumeration	Description
DaysOfWeek	The enumeration of days in a week.

API Class Library

DailyMoment Class

This class represents a moment that occurs at a certain time on certain days of the week.

For a list of all members of this type, see DailyMoment Members.

System.Object

DailyMoment

public class DailyMoment

Requirements

Namespace: ActionEngine.Api.Schedule

Assembly: aefwapi (in aefwapi.dll)

See Also

DailyMoment Members | ActionEngine.Api.Schedule Namespace

API Class Library

DailyMoment Members

DailyMoment overview

Public Instance Constructors

This constructs a new daily moment. At least one day of the week must be included, and the midnight offset must be ≥ 0 and < 24 hours.

Exceptions

Exception Type	Condition
ApplicationException	This is thrown when one or more arguments are invalid.

See Also

[DailyMoment Class](#) | [ActionEngine.Api.Schedule Namespace](#) | [DailyMoment Constructor Overload List](#)

[API Class Library](#)

DailyMoment Constructor (DaysOfWeek, TimeSpan, TimeSpan)

This constructs a new daily moment expressed as an offset from UTC.

public DailyMoment(

 DaysOfWeek *daysOfWeek*,
 TimeSpan *midnightOffset*,
 TimeSpan *utcOffset*

);

Parameters

daysOfWeek

One or more days of the week.

midnightOffset

The offset from midnight in which the moment occurs.

utcOffset

The difference between Coordinated Universal Time (UTC) and the given midnight offset. The value must be between -24 and 24 hours exclusive. See [UtcOffset](#).

Remarks

This constructs a new daily moment. At least one day of the week must be included, and the midnight offset must be ≥ 0 and < 24 hours.

Exceptions

Exception Type	Condition
ApplicationException	This is thrown when one or more arguments are invalid.

See Also

[DailyMoment Class](#) | [ActionEngine.Api.Schedule Namespace](#) | [DailyMoment Constructor Overload List](#)

[API Class Library](#)

DailyMoment Properties

The properties of the **DailyMoment** class are listed below. For a complete list of **DailyMoment** class members, see the [DailyMoment Members](#) topic.

Public Instance Properties

DaysOfWeek	This returns the days of the week for the daily moment.
MidnightOffset	This returns the midnight offset for the daily moment.

See Also

[DailyMoment Class](#) | [ActionEngine.Api.Schedule Namespace](#)

API Class Library

DailyMoment.DaysOfWeek Property

This returns the days of the week for the daily moment.

public DaysOfWeek DaysOfWeek {get;}

See Also

DailyMoment Class | ActionEngine.Api.Schedule Namespace

API Class Library

DailyMoment.MidnightOffset Property

This returns the midnight offset for the daily moment.

public System.TimeSpan MidnightOffset {get;}

See Also

DailyMoment Class | ActionEngine.Api.Schedule Namespace

API Class Library

DailyMoment Methods

The methods of the **DailyMoment** class are listed below. For a complete list of **DailyMoment** class members, see the DailyMoment Members topic.

Public Instance Methods

Equals	This compares two daily moments for equality.
GetHashCode	This returns a hash code for the daily moment.
GetType (inherited from Object)	Gets the Type of the current instance.
ToString	This returns an XML representation of the daily moment.

Protected Instance Methods

Finalize (inherited from Object)	Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.
MemberwiseClone (inherited from Object)	Creates a shallow copy of the current Object.

See Also

DailyMoment Class | ActionEngine.Api.Schedule Namespace

API Class Library

DailyMoment.Equals Method

This compares two daily moments for equality.

public override bool Equals(

 object *obj*

);

Parameters

obj

The object to compare.

Return Value

True if equal, false otherwise.

See Also

DailyMoment Class | ActionEngine.Api.Schedule Namespace

API Class Library

DailyMoment.GetHashCode Method

This returns a hash code for the daily moment.

public override int GetHashCode();

Return Value

A hash code.

See Also

[DailyMoment Class](#) | [ActionEngine.Api.Schedule Namespace](#)

API Class Library

DailyMoment.ToString Method

This returns an XML representation of the daily moment.

public override string ToString();

Return Value

An XML representation of the daily moment.

See Also

[DailyMoment Class](#) | [ActionEngine.Api.Schedule Namespace](#)

API Class Library

DailyRecurring Class

This class represents a moment that occurs every N minutes, bounded by a start time and duration, on certain days of the week.

For a list of all members of this type, see [DailyRecurring Members](#).

[System.Object](#)

DailyRecurring

public class DailyRecurring

Requirements

Namespace: ActionEngine.Api.Schedule

Assembly: aefwapi (in aefwapi.dll)

See Also

[DailyRecurring Members](#) | [ActionEngine.Api.Schedule Namespace](#)

API Class Library

DailyRecurring Members

[DailyRecurring overview](#)

Public Instance Constructors

DailyRecurring

Overloaded. Initializes a new instance of the DailyRecurring class.

Public Instance Properties

DaysOfWeek

This returns the days of the week for the daily recurring moment.

Duration

This returns the duration for the daily recurring moment.

MidnightOffsetStart

This returns the start time for the daily recurring moment.

MinuteInterval

This returns the "every N minutes" interval in which

the moment recurs.

Public Instance Methods

Equals	This compares two daily recurring moments for equality.
GetHashCode	This returns a hash code for the daily recurring moment.
GetType (inherited from Object)	Gets the Type of the current instance.
ToString	This returns an XML representation of the daily recurring moment.

Protected Instance Methods

Finalize (inherited from Object)	Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.
MemberwiseClone (inherited from Object)	Creates a shallow copy of the current Object.

See Also

[DailyRecurring Class | ActionEngine.Api.Schedule Namespace](#)

[API Class Library](#)

DailyRecurring Constructor

This constructs a new daily recurring moment expressed as UTC.

Overload List

This constructs a new daily recurring moment expressed as UTC.

public DailyRecurring(DaysOfWeek,int,TimeSpan,TimeSpan);

This constructs a new daily recurring moment expressed as an offset from UTC.

public DailyRecurring(DaysOfWeek,int,TimeSpan,TimeSpan,TimeSpan);

See Also

[DailyRecurring Class | ActionEngine.Api.Schedule Namespace](#)

[API Class Library](#)

DailyRecurring Constructor (DaysOfWeek, Int32, TimeSpan, TimeSpan)

This constructs a new daily recurring moment expressed as UTC.

public DailyRecurring(

 DaysOfWeek *daysOfWeek*,

 int *minuteInterval*,

 TimeSpan *midnightOffsetStart*,

 TimeSpan *duration*

);

Parameters

daysOfWeek

One or more days of the week on which the first of the recurring moments begins. Note that depending on the duration, the day might wrap to the next one, which is fine. For example, if defining Friday, 22:00 start time, 4 hour duration, 15 minute interval, the recurring moment will begin on Friday but will span to Saturday at 2:00.

minuteInterval

How often the moment occurs within the span, specified in minutes.

midnightOffsetStart

The time of the first moment.

duration

The duration after which minuteInterval ceases to have an effect. The value must be > 0 and < 24 hours.

Remarks

This constructs a new daily recurring moment. The recurring moment begins at the given time and happens every N minutes until the given duration is up.

Exceptions

Exception Type
ApplicationException

Condition
This is thrown when one or more arguments are invalid.

See Also

[DailyRecurring Class](#) | [ActionEngine.Api.Schedule Namespace](#) | [DailyRecurring Constructor Overload List](#)

[API Class Library](#)

DailyRecurring Constructor (DaysOfWeek, Int32, TimeSpan, TimeSpan, TimeSpan)

This constructs a new daily recurring moment expressed as an offset from UTC.

public DailyRecurring(

```
    DaysOfWeek daysOfWeek,
    int minuteInterval,
    TimeSpan midnightOffsetStart,
    TimeSpan duration,
    TimeSpan utcOffset
);
```

Parameters**daysOfWeek**

One or more days of the week on which the first of the recurring moments begins. Note that depending on the duration, the day might wrap to the next one, which is fine. For example, if defining Friday, 22:00 start time, 4 hour duration, 15 minute interval, the recurring moment will begin on Friday but will span to Saturday at 2:00.

minuteInterval

How often the moment occurs within the span, specified in minutes.

midnightOffsetStart

The time of the first moment.

duration

The duration after which minuteInterval ceases to have an effect. The value must be > 0 and < 24 hours.

utcOffset

The difference between Coordinated Universal Time (UTC) and the given start time. The value must be between -24 and 24 hours exclusive. See UtcOffset.

Remarks

This constructs a new daily recurring moment. The recurring moment begins at the given time and happens every N minutes until the given duration is up.

Exceptions

Exception Type
ApplicationException

Condition
This is thrown when one or more arguments are invalid.

See Also

[DailyRecurring Class](#) | [ActionEngine.Api.Schedule Namespace](#) | [DailyRecurring Constructor Overload List](#)

API Class Library

DailyRecurring Properties

The properties of the **DailyRecurring** class are listed below. For a complete list of **DailyRecurring** class members, see the DailyRecurring Members topic.

Public Instance Properties

DaysOfWeek	This returns the days of the week for the daily recurring moment.
Duration	This returns the duration for the daily recurring moment.
MidnightOffsetStart	This returns the start time for the daily recurring moment.
MinuteInterval	This returns the "every N minutes" interval in which the moment recurs.

See Also

[DailyRecurring Class](#) | [ActionEngine.Api.Schedule Namespace](#)

API Class Library

DailyRecurring.DaysOfWeek Property

This returns the days of the week for the daily recurring moment.

public DaysOfWeek DaysOfWeek {get;}

See Also

[DailyRecurring Class](#) | [ActionEngine.Api.Schedule Namespace](#)

API Class Library

DailyRecurring.Duration Property

This returns the duration for the daily recurring moment.

public System.TimeSpan Duration {get;}

See Also

[DailyRecurring Class](#) | [ActionEngine.Api.Schedule Namespace](#)

API Class Library

DailyRecurring.MidnightOffsetStart Property

This returns the start time for the daily recurring moment.

public System.TimeSpan MidnightOffsetStart {get;}

See Also

[DailyRecurring Class](#) | [ActionEngine.Api.Schedule Namespace](#)

API Class Library

DailyRecurring.MinuteInterval Property

This returns the "every N minutes" interval in which the moment recurs.

public int MinuteInterval {get;}

See Also

[DailyRecurring Class](#) | [ActionEngine.Api.Schedule Namespace](#)

API Class Library

DailyRecurring Methods

The methods of the **DailyRecurring** class are listed below. For a complete list of **DailyRecurring** class members, see the DailyRecurring Members topic.

Public Instance Methods

Equals	This compares two daily recurring moments for equality.
GetHashCode	This returns a hash code for the daily recurring moment.
GetType (inherited from Object)	Gets the Type of the current instance.
ToString	This returns an XML representation of the daily recurring moment.

Protected Instance Methods

Finalize (inherited from Object)	Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.
MemberwiseClone (inherited from Object)	Creates a shallow copy of the current Object.

See Also

[DailyRecurring Class](#) | [ActionEngine.Api.Schedule Namespace](#)

[API Class Library](#)

DailyRecurring.Equals Method

This compares two daily recurring moments for equality.

```
public override bool Equals(  
    object obj  
)
```

Parameters

obj

The object to compare.

Return Value

True if equal, false otherwise.

See Also

[DailyRecurring Class](#) | [ActionEngine.Api.Schedule Namespace](#)

[API Class Library](#)

DailyRecurring.GetHashCode Method

This returns a hash code for the daily recurring moment.

```
public override int GetHashCode();
```

Return Value

A hash code.

See Also

[DailyRecurring Class](#) | [ActionEngine.Api.Schedule Namespace](#)

[API Class Library](#)

DailyRecurring.ToString Method

This returns an XML representation of the daily recurring moment.

```
public override string ToString();
```

Return Value

An XML representation of the daily recurring moment.

See Also

DailyRecurring Class | ActionEngine.Api.Schedule Namespace

API Class Library

DaysOfWeek Enumeration

The enumeration of days in a week.

public enum DaysOfWeek

Remarks

The enumeration of days in a week. The members can be combined to indicate multiple days, such as DaysOfWeek.Saturday | DaysOfWeek.Sunday.

Members

Member Name	Description
Monday	Monday
Tuesday	Tuesday
Wednesday	Wednesday
Thursday	Thursday
Friday	Friday
Saturday	Saturday
Sunday	Sunday

Requirements

Namespace: ActionEngine.Api.Schedule

Assembly: aefwapi (in aefwapi.dll)

See Also

ActionEngine.Api.Schedule Namespace

API Class Library

FeatureSchedule Class

This class represents a feature schedule.

For a list of all members of this type, see FeatureSchedule Members.

System.Object

FeatureSchedule

public class FeatureSchedule

Remarks

This class represents a feature schedule. Feature schedules are dependent on a "push" system being installed on client devices and the server. Without this system, feature schedules are ignored. Today, the push system is the "Action Lock" product, which utilizes SMS for initiating contact from the server to the client. If you are developing plugins that utilize feature schedules, make sure that the intended deployment has Action Lock installed.

According to the given schedule, "feature commands" are fired off by the client device that maps to the given phone number. A user's phone numbers can be retrieved through the User class's Devices property. For more information on feature commands, see DoFeatureCommand.

Note that the implementation of DoFeatureCommand in the context of push can only return responses of type AnswersResponse.

Requirements

Namespace: ActionEngine.Api.Schedule

Assembly: aefwapi (in aefwapi.dll)

See Also

FeatureSchedule Members | ActionEngine.Api.Schedule Namespace

API Class Library

FeatureSchedule Members

FeatureSchedule overview

Public Instance Constructors

FeatureSchedule Constructor

This constructs a new feature schedule.

Public Instance Properties

AllowedEarly

This returns the interval that is acceptable for a scheduled event to fire early.

AllowedLate

This returns the interval that is acceptable for a scheduled event to fire late.

Args

This returns the arguments associated with the feature command.

Droppable

This returns whether or not a scheduled event can be dropped when the server is experiencing high load.

FeatureId

This returns the feature ID associated with the feature command.

FriendlyName

This returns the friendly name of the feature schedule.

Id

This returns the feature schedule's ID.

MaxTimeOnQueue

This returns the maximum amount of time a command can sit in the server's push queue without the client discovering it before it expires.

PhoneNumber

This returns the phone number of the client device to which the response to DoFeatureCommand is sent.

Schedule

This returns the schedule.

UserName

This returns the user name.

Public Instance Methods

Equals (inherited from Object)

Determines whether the specified Object is equal to the current Object.

GetHashCode (inherited from Object)

Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.

GetType (inherited from Object)

Gets the Type of the current instance.

ToString (inherited from Object)

Returns a String that represents the current Object.

Protected Instance Methods

Finalize (inherited from Object)

Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.

Creates a shallow copy of the current Object.

See Also

FeatureSchedule Class | ActionEngine.Api.Schedule Namespace

API Class Library

FeatureSchedule Constructor

This constructs a new feature schedule.

```
public FeatureSchedule(  
    Schedule schedule,  
    string friendlyName,  
    string featureId,  
    string[] args,  
    Device device,  
    ClientInfo clientInfo,  
    UserName userName,  
    TimeSpan maxTimeOnQueue,  
    bool droppable,  
    TimeSpan allowedEarly,  
    TimeSpan allowedLate  
)
```

Parameters

schedule

The schedule.

friendlyName

The friendly name.

featureId

The feature ID associated with the feature command.

args

The arguments associated with the feature command.

device

The client device to which the response to DoFeatureCommand is sent.

clientInfo

Information about the client making the request.

userName

The user name.

maxTimeOnQueue

The maximum amount of time a command can sit in the server's push queue without the client discovering it before it expires. For example, if a client device is turned off for a month, it may not make sense for a daily schedule to cause a month's worth of commands to queue up on the push server.

droppable

Whether or not a scheduled event can be dropped when the server is experiencing high load. In rare situations during high load, even if set to false, an event may be dropped if the system cannot catch up otherwise. Consider setting this to true if the content being pushed is non-essential or is not paid for by the user. Normally nothing will be dropped anyway.

allowedEarly

The interval that is acceptable for a scheduled event to fire early. Normally an event will fire at the precisely-scheduled time, but under high load the scheduler may try to spread out requests by starting some early and others late. This parameter allows the application to influence the scheduler, although there are no guarantees. Consider setting this to the maximum reasonable value.

allowedLate

The interval that is acceptable for a scheduled event to fire late.

See Also

[FeatureSchedule Class](#) | [ActionEngine.Api.Schedule Namespace](#) | [Scheduler](#)

[API Class Library](#)

Feature Schedule Properties

The properties of the **FeatureSchedule** class are listed below. For a complete list of **FeatureSchedule** class members, see the [FeatureSchedule Members](#) topic.

Public Instance Properties

AllowedEarly	This returns the interval that is acceptable for a scheduled event to fire early.
AllowedLate	This returns the interval that is acceptable for a scheduled event to fire late.
Args	This returns the arguments associated with the feature command.
Droppable	This returns whether or not a scheduled event can be dropped when the server is experiencing high load.
FeatureId	This returns the feature ID associated with the feature command.
FriendlyName	This returns the friendly name of the feature schedule.
Id	This returns the feature schedule's ID.
MaxTimeOnQueue	This returns the maximum amount of time a command can sit in the server's push queue without the client discovering it before it expires.
PhoneNumber	This returns the phone number of the client device to which the response to DoFeatureCommand is sent.
Schedule	This returns the schedule.
UserName	This returns the user name.

See Also

[FeatureSchedule Class](#) | [ActionEngine.Api.Schedule Namespace](#)

[API Class Library](#)

FeatureSchedule.AllowedEarly Property

This returns the interval that is acceptable for a scheduled event to fire early.

public System.TimeSpan AllowedEarly {get;}

Remarks

For more information, see FeatureSchedule

See Also

[FeatureSchedule Class](#) | [ActionEngine.Api.Schedule Namespace](#)

[API Class Library](#)

FeatureSchedule.AllowedLate Property

This returns the interval that is acceptable for a scheduled event to fire late.

public System.TimeSpan AllowedLate {get;}

Remarks

For more information, see FeatureSchedule

See Also

[FeatureSchedule Class](#) | [ActionEngine.Api.Schedule Namespace](#)

[API Class Library](#)

FeatureSchedule.Args Property

This returns the arguments associated with the feature command.

public string[] Args {get;}

See Also

FeatureSchedule Class | ActionEngine.Api.Schedule Namespace

API Class Library

FeatureSchedule.Droppable Property

This returns whether or not a scheduled event can be dropped when the server is experiencing high load.

public bool Droppable {get;}

See Also

FeatureSchedule Class | ActionEngine.Api.Schedule Namespace

API Class Library

FeatureSchedule.FeatureId Property

This returns the feature ID associated with the feature command.

public string FeatureId {get;}

See Also

FeatureSchedule Class | ActionEngine.Api.Schedule Namespace

API Class Library

FeatureSchedule.FriendlyName Property

This returns the friendly name of the feature schedule.

public string FriendlyName {get;}

See Also

FeatureSchedule Class | ActionEngine.Api.Schedule Namespace

API Class Library

FeatureSchedule.Id Property

This returns the feature schedule's ID.

public System.Guid Id {get;}

Remarks

The ID is only available after retrieving the feature schedule from the database. Otherwise, the value is Guid.Empty.

See Also

FeatureSchedule Class | ActionEngine.Api.Schedule Namespace

API Class Library

FeatureSchedule.MaxTimeOnQueue Property

This returns the maximum amount of time a command can sit in the server's push queue without the client discovering it before it expires.

public System.TimeSpan MaxTimeOnQueue {get;}

Remarks

This returns the maximum amount of time a command can sit in the server's push queue without the client discovering it before it expires. For example, if a client device is turned off for a month, it may not make sense for a daily schedule to cause a month's worth of commands to queue up on the push server.

See Also

FeatureSchedule Class | ActionEngine.Api.Schedule Namespace

API Class Library

Feature Schedule.PhoneNumber Property

This returns the phone number of the client device to which the response to DoFeatureCommand is sent.

public string PhoneNumber {get;}

See Also

FeatureSchedule Class | ActionEngine.Api.Schedule Namespace

API Class Library

FeatureSchedule.Schedule Property

This returns the schedule.

public Schedule Schedule {get;}

See Also

FeatureSchedule Class | ActionEngine.Api.Schedule Namespace

API Class Library

FeatureSchedule.UserName Property

This returns the user name.

public ActionEngine.Api.UserName UserName {get;}

See Also

FeatureSchedule Class | ActionEngine.Api.Schedule Namespace

API Class Library

ITask Interface

This interface represents a task, which is called into by the framework based on a schedule.

For a list of all members of this type, see ITask Members.

public interface ITask : IModule, IHealth

Remarks

This interface represents a task, which is called into by the framework based on a schedule. The schedule can be defined programmatically or in an install.xml file. For more information on the relationship between tasks and schedules, see TaskSchedule.

To implement a task:

- Create a new plugin folder.
- In the plugin folder, create a "cfg" subfolder. In the cfg folder, create an "install.xml" file. The install.xml file defines a component of type "task." Here is an example install.xml file: <install> <content> <component name="mytask" type="task"> <class assembly="mytask.dll" lang=".net">MyCompany.MyTask</class> </component> </content> <plugin> <id>mytask</id> <namespace>abc</namespace> <version>0.1</version> </plugin> </install>
- In the plugin folder, create a "dotnet" subfolder. The assembly referenced in install.xml is relative to this folder.
- Implement the ITask interface using the class name defined in install.xml.
- If the task makes use of a type (interface, class, etc.) exposed by an assembly in another plugin, set up a dependency. For more information, see IModule.

Requirements

Namespace: ActionEngine.Api.Schedule

Assembly: aefwapi (in aefwapi.dll)

See Also

ITask Members | ActionEngine.Api.Schedule Namespace

API Class Library

ITask Members

ITask overview

Public Instance Methods

RunTask

This is called to run a task.

See Also

[ITask Interface](#) | [ActionEngine.Api.Schedule Namespace](#)

[API Class Library](#)

ITask Methods

The methods of the **ITask** interface are listed below. For a complete list of **ITask** interface members, see the [ITask Members](#) topic.

Public Instance Methods

RunTask

This is called to run a task.

See Also

[ITask Interface](#) | [ActionEngine.Api.Schedule Namespace](#)

[API Class Library](#)

ITask.RunTask Method

This is called to run a task.

Response RunTask(

```
    string taskData,  
    DateTime scheduledMoment,  
    string componentId  
)
```

Parameters

taskData

The task data defined in the task schedule.

scheduledMoment

The date/time associated with the moment in a task schedule that caused this to be called. This is provided because the actual time that RunTask is called could be different than the intended scheduled time in some cases, such as when the scheduler gets backed up under heavy load.

componentId

The component ID of the task schedule.

Return Value

A Response.

Remarks

This is called to run a task. Typically a CodeResponse of type S_OK is returned, but other codes can be returned, and responses of type HealthResponse are also allowed.

See Also

[ITask Interface](#) | [ActionEngine.Api.Schedule Namespace](#)

[API Class Library](#)

MonthlyMoment Class

This class represents a moment that occurs at a certain time once a month.

For a list of all members of this type, see [MonthlyMoment Members](#).

System.Object

MonthlyMoment

public class MonthlyMoment

Requirements

NameSpace : ActionEngine.Api.Schedule

Assembly: aefwapi (in aefwapi.dll)

See Also

[MonthlyMoment Members](#) | [ActionEngine.Api.Schedule Namespace](#)

[API Class Library](#)

MonthlyMoment Members

[MonthlyMoment overview](#)

Public Instance Constructors

[MonthlyMoment](#)

Overloaded. Initializes a new instance of the MonthlyMoment class.

Public Instance Properties

[DayOfMonth](#)

This returns the day of the month for the monthly moment.

[MidnightOffset](#)

This returns the midnight offset for the monthly moment.

Public Instance Methods

[Equals](#)

This compares two monthly moments for equality.

[GetHashCode](#)

This returns a hash code for the monthly moment.

[GetType \(inherited from Object\)](#)

Gets the Type of the current instance.

[ToString](#)

This returns an XML representation of the monthly moment.

Protected Instance Methods

[Finalize \(inherited from Object\)](#)

Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.

[MemberwiseClone \(inherited from Object\)](#)

Creates a shallow copy of the current Object.

See Also

[MonthlyMoment Class](#) | [ActionEngine.Api.Schedule Namespace](#)

[API Class Library](#)

MonthlyMoment Constructor

This constructs a new monthly moment expressed as UTC.

Overload List

This constructs a new monthly moment expressed as UTC.

public MonthlyMoment(int,TimeSpan);

This constructs a new monthly moment expressed as an offset from UTC.

public MonthlyMoment(int,TimeSpan,TimeSpan);

See Also

[MonthlyMoment Class](#) | [ActionEngine.Api.Schedule Namespace](#)

[API Class Library](#)

MonthlyMoment Constructor (Int32, TimeSpan)

This constructs a new monthly moment expressed as UTC.

public MonthlyMoment(

```
int dayOfMonth,
TimeSpan midnightOffset
);
```

Parameters*dayOfMonth*

The day of the month.

midnightOffset

The offset from midnight when the moment occurs.

Remarks

This constructs a new monthly moment. The given day of the month must be between 1 and 31. For months that have fewer than 31 days, the last day of the month is used. The midnight offset must be ≥ 0 and < 24 hours.

Exceptions

Exception Type

ApplicationException

Condition

This is thrown when one or more arguments are invalid.

See Also

[MonthlyMoment Class](#) | [ActionEngine.Api.Schedule Namespace](#) | [MonthlyMoment Constructor Overload List](#)

[API Class Library](#)**MonthlyMoment Constructor (Int32, TimeSpan, TimeSpan)**

This constructs a new monthly moment expressed as an offset from UTC.

public MonthlyMoment(

```
int dayOfMonth,
TimeSpan midnightOffset,
TimeSpan utcOffset
```

);

Parameters*dayOfMonth*

The day of the month.

midnightOffset

The offset from midnight when the moment occurs.

utcOffset

The difference between Coordinated Universal Time (UTC) and the given midnight offset. The value must be between -24 and 24 hours exclusive. See UtcOffset. !@# EXPLAIN END OF MONTH BEHAVIOR

Remarks

This constructs a new monthly moment. The given day of the month must be between 1 and 31. For months that have fewer than 31 days, the last day of the month is used. The midnight offset must be ≥ 0 and < 24 hours.

Exceptions

Exception Type

ApplicationException

Condition

This is thrown when one or more arguments are invalid.

See Also

[MonthlyMoment Class](#) | [ActionEngine.Api.Schedule Namespace](#) | [MonthlyMoment Constructor Overload List](#)

[API Class Library](#)

MonthlyMoment Properties

The properties of the **MonthlyMoment** class are listed below. For a complete list of **MonthlyMoment** class members, see the [MonthlyMoment Members](#) topic.

Public Instance Properties

DayOfMonth	This returns the day of the month for the monthly moment.
MidnightOffset	This returns the midnight offset for the monthly moment.

See Also

[MonthlyMoment Class](#) | [ActionEngine.Api.Schedule Namespace](#)

[API Class Library](#)

MonthlyMoment.DayOfMonth Property

This returns the day of the month for the monthly moment.

public int DayOfMonth {get;}

See Also

[MonthlyMoment Class](#) | [ActionEngine.Api.Schedule Namespace](#)

[API Class Library](#)

MonthlyMoment.MidnightOffset Property

This returns the midnight offset for the monthly moment.

public System.TimeSpan MidnightOffset {get;}

See Also

[MonthlyMoment Class](#) | [ActionEngine.Api.Schedule Namespace](#)

[API Class Library](#)

MonthlyMoment Methods

The methods of the **MonthlyMoment** class are listed below. For a complete list of **MonthlyMoment** class members, see the [MonthlyMoment Members](#) topic.

Public Instance Methods

Equals	This compares two monthly moments for equality.
GetHashCode	This returns a hash code for the monthly moment.
GetType (inherited from Object)	Gets the Type of the current instance.
ToString	This returns an XML representation of the monthly moment.

Protected Instance Methods

Finalize (inherited from Object)	Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.
MemberwiseClone (inherited from Object)	Creates a shallow copy of the current Object.

See Also

[MonthlyMoment Class](#) | [ActionEngine.Api.Schedule Namespace](#)

[API Class Library](#)

MonthlyMoment.Equals Method

This compares two monthly moments for equality.

```
public override bool Equals(  
    object obj  
)
```

Parameters

obj

The object to compare.

Return Value

True if equal, false otherwise.

See Also

[MonthlyMoment Class](#) | [ActionEngine.Api.Schedule Namespace](#)

[API Class Library](#)

MonthlyMoment.GetHashCode Method

This returns a hash code for the monthly moment.

```
public override int GetHashCode();
```

Return Value

A hash code.

See Also

[MonthlyMoment Class](#) | [ActionEngine.Api.Schedule Namespace](#)

[API Class Library](#)

MonthlyMoment.ToString Method

This returns an XML representation of the monthly moment.

```
public override string ToString();
```

Return Value

An XML representation of the monthly moment.

See Also

[MonthlyMoment Class](#) | [ActionEngine.Api.Schedule Namespace](#)

[API Class Library](#)

Schedule Class

This class represents a schedule of one-time and recurring moments.

For a list of all members of this type, see [Schedule Members](#).

[System.Object](#)

Schedule

```
public class Schedule
```

Remarks

This class represents a schedule of one-time and recurring moments. Note that this class is NOT thread safe. Implement your own locking if multi-threaded access is required.

The schedule's resolution is to the minute. Seconds are ignored. All times are expressed as UTC. When defining offsets and absolute times in XML (parsed by the Schedule constructor), an exception is thrown if an offset or time includes seconds. For methods that take DateTime or TimeSpan structures, the seconds if provided are simply ignored.

Requirements

Namespace: ActionEngine.Api.Schedule

Assembly: aefwapi (in aefwapi.dll)

See Also

[Schedule Members](#) | [ActionEngine.Api.Schedule Namespace](#)

API Class Library

Schedule Members

Schedule overview

Public Static Fields

NoDateTime

This represents a DateTime that has no value or has not been specified.

Public Instance Constructors

Schedule

Overloaded. Initializes a new instance of the Schedule class.

Public Instance Properties

Beginning

This represents a beginning bound on the entire schedule.

DailyMoments

This returns the daily moments of the schedule.

DailyRecurring

This returns the daily recurring moments of the schedule.

End

This represents an ending bound on the entire schedule.

Moments

This returns the moments of the schedule.

MonthlyMoments

This returns the monthly moments of the schedule.

Public Instance Methods

AddDailyMoment

This adds a daily moment to the schedule.

AddDailyRecurring

This adds a daily recurring moment to the schedule.

AddMoment

This adds a moment to the schedule.

AddMonthlyMoment

This adds a monthly moment to the schedule.

Equals (inherited from Object)

Determines whether the specified Object is equal to the current Object.

GetHashCode (inherited from Object)

Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.

GetNextMoment

This returns the first moment that follows the reference moment, or NoDateTime if none exists.

GetType (inherited from Object)

Gets the Type of the current instance.

RemoveDailyMoment

This removes a daily moment from the schedule.

RemoveDailyRecurring

This removes a daily recurring moment from the schedule.

RemoveMoment

This removes a moment from the schedule.

RemoveMonthlyMoment

This removes a monthly moment from the schedule.

ToString

This returns an XML representation of the schedule.

Protected Instance Methods

Finalize (inherited from Object)

Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.

Creates a shallow copy of the current Object.

MemberwiseClone (inherited from Object)

See Also

[Schedule Class | ActionEngine.Api.Schedule Namespace](#)

[API Class Library](#)

Schedule Constructor

This constructs an empty schedule.

Overload List

This constructs an empty schedule.

`public Schedule();`

This constructs a new schedule from the given XML.

`public Schedule(string);`

See Also

[Schedule Class | ActionEngine.Api.Schedule Namespace](#)

[API Class Library](#)

Schedule Constructor ()

This constructs an empty schedule.

`public Schedule();`

See Also

[Schedule Class | ActionEngine.Api.Schedule Namespace | Schedule Constructor Overload List](#)

[API Class Library](#)

Schedule Constructor (String)

This constructs a new schedule from the given XML.

`public Schedule(`

`string xml`

`);`

Parameters

`xml`

The XML.

Remarks

This constructs a new schedule from the given XML. All times are expressed as UTC. Here is an example document:

```
<schedule      beginning="200301010000"          end="200307312359">      <dailyMoment>
<daysOfWeek>1111100</daysOfWeek>    <time>1230</time>    </dailyMoment>    <dailyRecurring>
<daysOfWeek>0000011</daysOfWeek>          <minuteInterval>60</minuteInterval>
<startTime>0800</startTime>          <duration>120</duration>          </dailyRecurring>
<moment>200304011800</moment>        <monthlyMoment>          <dayOfMonth>15</dayOfMonth>
<time>1200</time> </monthlyMoment> </schedule>
```

- Any number of the four main element types can be included in the schedule (dailyMoment, dailyRecurring, moment, and monthlyMoment), but each one must be unique within its category. For example, you cannot add `<moment>200310310000</moment>` twice.
- The beginning and end attributes are optional. If not provided, or if a value is NoDateTime, the schedule is not bounded on that end (front or back).
- `<startTime>` is the time at which a daily recurring moment begins.
- `<duration>` is the duration in minutes after which `<minuteInterval>` ceases to have an effect.
- `<daysOfWeek>` is a string of seven 1s and 0s representing which days of the week are enabled, beginning with Monday.
- All absolute times must be of the format YYYYMMDDHHMM, and all times (offsets from midnight) must be of the format HHMM. Anything else will generate an exception during the parse.

Exceptions

Exception Type	Condition
ApplicationException	This is thrown when the XML is invalid.
XmlException	This is thrown when the XML fails to load or parse.

See Also

[Schedule Class](#) | [ActionEngine.Api.Schedule Namespace](#) | [Schedule Constructor Overload List](#)

[API Class Library](#)

Schedule Fields

The fields of the **Schedule** class are listed below. For a complete list of **Schedule** class members, see the Schedule Members topic.

Public Static Fields

NoDateTime	This represents a DateTime that has no value or has not been specified.
------------	---

See Also

[Schedule Class](#) | [ActionEngine.Api.Schedule Namespace](#)

[API Class Library](#)

Schedule.NoDateTime Field

This represents a DateTime that has no value or has not been specified.

public static readonly DateTime NoDateTime;

Remarks

This represents a DateTime that has no value or has not been specified. The value is January 1, 2000, 12:00 AM.

See Also

[Schedule Class](#) | [ActionEngine.Api.Schedule Namespace](#)

[API Class Library](#)

Schedule Properties

The properties of the **Schedule** class are listed below. For a complete list of **Schedule** class members, see the Schedule Members topic.

Public Instance Properties

Beginning	This represents a beginning bound on the entire schedule.
DailyMoments	This returns the daily moments of the schedule.
DailyRecurring	This returns the daily recurring moments of the schedule.
End	This represents an ending bound on the entire schedule.
Moments	This returns the moments of the schedule.
MonthlyMoments	This returns the monthly moments of the schedule.

See Also

[Schedule Class](#) | [ActionEngine.Api.Schedule Namespace](#)

[API Class Library](#)

Schedule.Beginning Property

This represents a beginning bound on the entire schedule.

public System.DateTime Beginning {get; set;}

Remarks

This represents a beginning bound on the entire schedule. If not provided, a value of NoDateTime is used. In a similar way, to clear the beginning, assign a value of NoDateTime.

Exceptions

Exception Type
ApplicationException

Condition
This is thrown if both the beginning and end are specified, and the beginning is not before the end.

See Also

[Schedule Class](#) | [ActionEngine.Api.Schedule Namespace](#) | [End](#)

[API Class Library](#)

Schedule.DailyMoments Property

This returns the daily moments of the schedule.

public DailyMoment[] DailyMoments {get;}

Remarks

This returns the daily moments of the schedule. If none is present, a zero-length array is returned.

See Also

[Schedule Class](#) | [ActionEngine.Api.Schedule Namespace](#)

[API Class Library](#)

Schedule.DailyRecurring Property

This returns the daily recurring moments of the schedule.

public DailyRecurring[] DailyRecurring {get;}

Remarks

This returns the daily recurring moments of the schedule. If none is present, a zero-length array is returned.

See Also

[Schedule Class](#) | [ActionEngine.Api.Schedule Namespace](#)

[API Class Library](#)

Schedule.End Property

This represents an ending bound on the entire schedule.

public System.DateTime End {get; set;}

Remarks

This represents an ending bound on the entire schedule. If not provided, a value of NoDateTime is used. In a similar way, to clear the end, assign a value of NoDateTime.

Exceptions

Exception Type
ApplicationException

Condition
This is thrown if both the beginning and end are specified, and the beginning is not before the end.

See Also

[Schedule Class](#) | [ActionEngine.Api.Schedule Namespace](#) | [Beginning](#)

API Class Library

Schedule.Moments Property

This returns the moments of the schedule.

```
public System.DateTime[] Moments {get;}
```

Remarks

This returns the moments of the schedule. If none is present, a zero-length array is returned.

See Also

[Schedule Class](#) | [ActionEngine.Api.Schedule Namespace](#)

API Class Library

Schedule.MonthlyMoments Property

This returns the monthly moments of the schedule.

```
public MonthlyMoment[] MonthlyMoments {get;}
```

Remarks

This returns the monthly moments of the schedule. If none is present, a zero-length array is returned.

See Also

[Schedule Class](#) | [ActionEngine.Api.Schedule Namespace](#)

API Class Library

Schedule Methods

The methods of the **Schedule** class are listed below. For a complete list of **Schedule** class members, see the Schedule Members topic.

Public Instance Methods

AddDailyMoment	This adds a daily moment to the schedule.
AddDailyRecurring	This adds a daily recurring moment to the schedule.
AddMoment	This adds a moment to the schedule.
AddMonthlyMoment	This adds a monthly moment to the schedule.
Equals (inherited from Object)	Determines whether the specified Object is equal to the current Object.
GetHashCode (inherited from Object)	Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.
GetNextMoment	This returns the first moment that follows the reference moment, or NoDateTime if none exists.
GetType (inherited from Object)	Gets the Type of the current instance.
RemoveDailyMoment	This removes a daily moment from the schedule.
RemoveDailyRecurring	This removes a daily recurring moment from the schedule.
RemoveMoment	This removes a moment from the schedule.
RemoveMonthlyMoment	This removes a monthly moment from the schedule.
ToString	This returns an XML representation of the schedule.

Protected Instance Methods

Finalize (inherited from Object)	Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.
MemberwiseClone (inherited from Object)	Creates a shallow copy of the current Object.

See Also

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[Schedule Class | ActionEngine.Api.Schedule Namespace](#)[API Class Library](#)**Schedule.AddDailyMoment Method**

This adds a daily moment to the schedule.

public void AddDailyMoment(

DailyMoment dailyMoment

);

Parameters

dailyMoment

The daily moment to add.

Exceptions

Exception Type

ApplicationException

Condition

This is thrown if the daily moment already exists.

See Also

[Schedule Class | ActionEngine.Api.Schedule Namespace](#)

[API Class Library](#)**Schedule.AddDailyRecurring Method**

This adds a daily recurring moment to the schedule.

public void AddDailyRecurring(

DailyRecurring dailyRecurring

);

Parameters

dailyRecurring

The daily recurring moment to add.

Exceptions

Exception Type

ApplicationException

Condition

This is thrown if the daily recurring moment already exists.

See Also

[Schedule Class | ActionEngine.Api.Schedule Namespace](#)

[API Class Library](#)**Schedule.AddMoment Method**

This adds a moment to the schedule.

public void AddMoment(

DateTime moment

);

Parameters

moment

The moment to add.

Exceptions

Exception Type

ApplicationException

Condition

This is thrown if the moment already exists or if NoDateTime is attempted to be added.

See Also

Schedule Class | ActionEngine.Api.Schedule Namespace

API Class Library

Schedule.AddMonthlyMoment Method

This adds a monthly moment to the schedule.

```
public void AddMonthlyMoment(  
    MonthlyMoment monthlyMoment  
)
```

Parameters

monthlyMoment

The monthly moment to add.

Exceptions

Exception Type

ApplicationException

Condition

This is thrown if the monthly moment already exists.

See Also

Schedule Class | ActionEngine.Api.Schedule Namespace

API Class Library

Schedule.GetNextMoment Method

This returns the first moment that follows the reference moment, or NoDateTime if none exists.

```
public DateTime GetNextMoment(  
    DateTime reference  
)
```

Parameters

reference

The reference moment.

Return Value

The next moment, or NoDateTime if none exists.

Remarks

This returns the first moment that follows the reference moment, or NoDateTime if none exists. It's possible for a schedule to have several instances of the same moment scheduled in different ways. For example, a monthly moment could be scheduled for 8:00 AM on the first of every month, and a daily moment could also be scheduled for 8:00 AM. In this case, the 8:00 AM moment would exist twice at times, but the implementation of this method does not return 8:00 if given 8:00. It would find the next moment that follows 8:00.

If the schedule has a Beginning and you want to search for the first moment, pass in any DateTime earlier than the beginning (but not the NoDateTime value).

Exceptions

Exception Type

ApplicationException

Condition

This is thrown when the reference moment is NoDateTime.

See Also

Schedule Class | ActionEngine.Api.Schedule Namespace

API Class Library

Schedule.RemoveDailyMoment Method

This removes a daily moment from the schedule.

```
public bool RemoveDailyMoment(  
    DailyMoment dailyMoment  
)
```

Parameters

dailyMoment

The daily moment to remove.

Return Value

True if found, false otherwise.

See Also

Schedule Class | ActionEngine.Api.Schedule Namespace

API Class Library

Schedule.RemoveDailyRecurring Method

This removes a daily recurring moment from the schedule.

```
public bool RemoveDailyRecurring(  
    DailyRecurring dailyRecurring  
)
```

Parameters

dailyRecurring

The daily recurring moment to remove.

Return Value

True if found, false otherwise.

See Also

Schedule Class | ActionEngine.Api.Schedule Namespace

API Class Library

Schedule.RemoveMoment Method

This removes a moment from the schedule.

```
public bool RemoveMoment(  
    DateTime moment  
)
```

Parameters

moment

The moment to remove.

Return Value

True if found, false otherwise.

See Also

Schedule Class | ActionEngine.Api.Schedule Namespace

API Class Library

Schedule.RemoveMonthlyMoment Method

This removes a monthly moment from the schedule.

```
public bool RemoveMonthlyMoment(  
    MonthlyMoment monthlyMoment  
)
```

Parameters

monthlyMoment

The monthly moment to remove.

Return Value

True if found, false otherwise.

See Also

Schedule Class | ActionEngine.Api.Schedule Namespace

API Class Library

Schedule.ToString Method

This returns an XML representation of the schedule.

public override string ToString();

Return Value

An XML representation of the schedule.

Remarks

This returns an XML representation of the schedule. For more information on the format of the XML, see the Schedule constructor.

See Also

Schedule Class | ActionEngine.Api.Schedule Namespace

API Class Library

Scheduler Class

This class is responsible for managing schedules related to tasks and feature commands.

For a list of all members of this type, see Scheduler Members.

System.Object

Scheduler

public abstract class Scheduler

Requirements

Namespace: ActionEngine.Api.Schedule

Assembly: aefwapi (in aefwapi.dll)

See Also

Scheduler Members | ActionEngine.Api.Schedule Namespace

API Class Library

Scheduler Members

Scheduler overview

Public Static Methods

AddFeatureSchedule

This adds a feature schedule to the scheduler.

AddTaskSchedule

This adds a task schedule to the scheduler.

GetFeatureSchedules

Overloaded. This returns all feature schedules for the given user.

GetTaskSchedule

This returns the task schedule for the given component ID.

RemoveFeatureSchedule

This removes a feature schedule from the scheduler.

RemoveTaskSchedule

This removes a task schedule from the scheduler.

Public Instance Methods

Equals (inherited from Object)

Determines whether the specified Object is equal to the current Object.

GetHashCode (inherited from Object)

Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.

GetType (inherited from Object)
ToString (inherited from Object)

Gets the Type of the current instance.
Returns a String that represents the current Object.

Protected Instance Constructors

Scheduler Constructor

Protected Instance Methods

Finalize (inherited from Object)

Allows an Object to attempt to free resources and perform other cleanup operations before the Object is reclaimed by garbage collection.

MemberwiseClone (inherited from Object)

Creates a shallow copy of the current Object.

See Also

[Scheduler Class](#) | [ActionEngine.Api.Schedule Namespace](#)

API Class Library

Scheduler Constructor

protected Scheduler();

See Also

[Scheduler Class](#) | [ActionEngine.Api.Schedule Namespace](#)

API Class Library

Scheduler Methods

The methods of the **Scheduler** class are listed below. For a complete list of **Scheduler** class members, see the [Scheduler Members](#) topic.

Public Static Methods

AddFeatureSchedule

This adds a feature schedule to the scheduler.

AddTaskSchedule

This adds a task schedule to the scheduler.

GetFeatureSchedules

Overloaded. This returns all feature schedules for the given user.

GetTaskSchedule

This returns the task schedule for the given component ID.

RemoveFeatureSchedule

This removes a feature schedule from the scheduler.

RemoveTaskSchedule

This removes a task schedule from the scheduler.

Public Instance Methods

Equals (inherited from Object)

Determines whether the specified Object is equal to the current Object.

GetHashCode (inherited from Object)

Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.

GetType (inherited from Object)

Gets the Type of the current instance.

ToString (inherited from Object)

Returns a String that represents the current Object.

Protected Instance Methods

Finalize (inherited from Object)

Allows an Object to attempt to free resources and

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MemberwiseClone (inherited from **Object**)

perform other cleanup operations before the Object is reclaimed by garbage collection.
Creates a shallow copy of the current Object.

See Also

Scheduler Class | ActionEngine.Api.Schedule Namespace

API Class Library

Scheduler.AddFeatureSchedule Method

This adds a feature schedule to the scheduler.

public static void AddFeatureSchedule(
 FeatureSchedule *featureSchedule*
);

Parameters

featureSchedule

The feature schedule to add.

Remarks

Before calling this, make sure you check the device's IsPushable property.

See Also

Scheduler Class | ActionEngine.Api.Schedule Namespace

API Class Library

Scheduler.AddTaskSchedule Method

This adds a task schedule to the scheduler.

public static void AddTaskSchedule(
 TaskSchedule *taskSchedule*
);

Parameters

taskSchedule

The task schedule to add.

Exceptions

Exception Type

ApplicationException

Condition

This is thrown if a task schedule already exists for the component ID, or if there are other problems.

See Also

Scheduler Class | ActionEngine.Api.Schedule Namespace

API Class Library

Scheduler.GetFeatureSchedules Method

This returns all feature schedules for the given user.

Overload List

This returns all feature schedules for the given user.

public static FeatureSchedule[] GetFeatureSchedules(UserName);

This returns all feature schedules for the given user and feature ID.

public static FeatureSchedule[] GetFeatureSchedules(UserName,string);

See Also

Scheduler Class | ActionEngine.Api.Schedule Namespace

API Class Library

Scheduler.GetFeatureSchedules Method (UserName)

This returns all feature schedules for the given user.

```
public static FeatureSchedule[] GetFeatureSchedules(  
    UserName userName
```

);

Parameters

userName

The user name.

Return Value

All feature schedules for the given user. If none is present, a zero-length array is returned.

See Also

[Scheduler Class](#) | [ActionEngine.Api.Schedule Namespace](#) | [Scheduler.GetFeatureSchedules Overload List](#)

[API Class Library](#)

Scheduler.GetFeatureSchedules Method (UserName, String)

This returns all feature schedules for the given user and feature ID.

```
public static FeatureSchedule[] GetFeatureSchedules(  
    UserName userName,  
    string featureId
```

);

Parameters

userName

The user name.

featureId

The feature ID, fully qualified with the resource namespace, or null to ignore feature ID.

Return Value

All feature schedules for the given feature ID and user. If none is present, a zero-length array is returned.

See Also

[Scheduler Class](#) | [ActionEngine.Api.Schedule Namespace](#) | [Scheduler.GetFeatureSchedules Overload List](#)

[API Class Library](#)

Scheduler.GetTaskSchedule Method

This returns the task schedule for the given component ID.

```
public static TaskSchedule GetTaskSchedule(  
    string componentId
```

);

Parameters

componentId

The ID of the component that implements the ITask interface.

Return Value

The task schedule for the given component ID, or null if none is defined.

See Also

[Scheduler Class](#) | [ActionEngine.Api.Schedule Namespace](#)

[API Class Library](#)

Scheduler.RemoveFeatureSchedule Method

This removes a feature schedule from the scheduler.

```
public static bool RemoveFeatureSchedule(  
    ...
```

```
    Guid featureScheduleId  
);  
Parameters  
featureScheduleId  
The ID of the feature schedule to remove. See Id.  
Return Value  
True if found, false otherwise.  
See Also  
Scheduler Class | ActionEngine.Api.Schedule Namespace
```

API Class Library

Scheduler.RemoveTaskSchedule Method
This removes a task schedule from the scheduler.
public static bool RemoveTaskSchedule(
 Guid taskScheduleId
);
Parameters
taskScheduleId
The ID of the task schedule to remove. See Id
Return Value
True if found, false otherwise.
See Also
Scheduler Class | ActionEngine.Api.Schedule Namespace

API Class Library

TaskSchedule Class
This class represents a task schedule.
For a list of all members of this type, see TaskSchedule Members.
System.Object
TaskSchedule
public class TaskSchedule
Remarks
This class represents a task schedule. The scheduler causes RunTask to be called according to the defined schedule. In an environment where scalability is achieved through running several instances of the plugin host, the scheduler ensures that only one instance picks up the request at a time.
Task schedules can also be defined in a plugin's install.xml file. Here is an example:

```
<install>  
    <content>  
        <component name="mytask" type="task">  
            <class assembly="mytask.dll" lang=".net">MyCompany.MyTask</class>  
            <taskSchedule>  
                <friendlyName>My task schedule</friendlyName>  
                <schedule beginning="2003... See the Schedule(string xml) constructor  
for more information on the schedule XML schema.">  
                </schedule>  
                <taskData>my data</taskData>  
            </taskSchedule>  
        </component>  
    </content>  
    ...  
</install>
```

For more information on the schedule XML schema, see Schedule.

When it's time to call into `ITask.RunTask()`, the scheduler passes in the task data that is defined in either `install.xml` as `<taskData>my data</taskData>` or as passed to the `TaskSchedule` constructor.

Only one task schedule is allowed per component ID. During plugin install, if `install.xml` defines a task schedule, it replaces any existing task schedule that might have been defined for that component. Task schedules can be added and removed programmatically as well (see `AddTaskSchedule` and `RemoveTaskSchedule`).

Requirements

Namespace: ActionEngine.Api.Schedule

Assembly: aefwapi (in aefwapi.dll)

See Also

[TaskSchedule Members](#) | [ActionEngine.Api.Schedule Namespace](#)

[API Class Library](#)

TaskSchedule Members

[TaskSchedule overview](#)

Public Instance Constructors

[TaskSchedule Constructor](#)

This constructs a new task schedule.

Public Instance Properties

[ComponentId](#)

This returns the component ID associated with the task schedule.

[FriendlyName](#)

This returns the friendly name of the task schedule.

[Id](#)

This returns the task schedule's ID.

[Schedule](#)

This returns the schedule.

[TaskData](#)

This returns the task data, which is the data passed into `RunTask` each time the scheduler initiates a call.

Public Instance Methods

[Equals \(inherited from Object\)](#)

Determines whether the specified `Object` is equal to the current `Object`.

[GetHashCode \(inherited from Object\)](#)

Serves as a hash function for a particular type, suitable for use in hashing algorithms and data structures like a hash table.

[GetType \(inherited from Object\)](#)

Gets the Type of the current instance.

[ToString \(inherited from Object\)](#)

Returns a String that represents the current `Object`.

Protected Instance Methods

[Finalize \(inherited from Object\)](#)

Allows an `Object` to attempt to free resources and perform other cleanup operations before the `Object` is reclaimed by garbage collection.

Creates a shallow copy of the current `Object`.

See Also

[TaskSchedule Class](#) | [ActionEngine.Api.Schedule Namespace](#)

[API Class Library](#)

TaskSchedule Constructor

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This constructs a new task schedule.

```
public TaskSchedule(  
    Schedule schedule,  
    string friendlyName,  
    string taskData,  
    string componentId  
)
```

Parameters

schedule

The schedule.

friendlyName

The friendly name used for administrative purposes.

taskData

The task data that is passed into RunTask each time the scheduler initiates a call.

componentId

The fully-qualified component ID of the ITask module, which is defined in install.xml.

See Also

[TaskSchedule Class](#) | [ActionEngine.Api.Schedule Namespace](#) | [Scheduler](#)

[API Class Library](#)

TaskSchedule Properties

The properties of the **TaskSchedule** class are listed below. For a complete list of **TaskSchedule** class members, see the [TaskSchedule Members](#) topic.

Public Instance Properties

ComponentId	This returns the component ID associated with the task schedule.
FriendlyName	This returns the friendly name of the task schedule.
Id	This returns the task schedule's ID.
Schedule	This returns the schedule.
TaskData	This returns the task data, which is the data passed into RunTask each time the scheduler initiates a call.

See Also

[TaskSchedule Class](#) | [ActionEngine.Api.Schedule Namespace](#)

[API Class Library](#)

TaskSchedule.ComponentId Property

This returns the component ID associated with the task schedule.

public string ComponentId {get;}

See Also

[TaskSchedule Class](#) | [ActionEngine.Api.Schedule Namespace](#)

[API Class Library](#)

TaskSchedule.FriendlyName Property

This returns the friendly name of the task schedule.

public string FriendlyName {get;}

See Also

[TaskSchedule Class](#) | [ActionEngine.Api.Schedule Namespace](#)

API Class Library

TaskSchedule.Id Property

This returns the task schedule's ID.

public System.Guid Id {get;}

Remarks

The ID is only available after retrieving the task schedule from the database. Otherwise, the value is Guid.Empty.

See Also

[TaskSchedule Class](#) | [ActionEngine.Api.Schedule Namespace](#)

API Class Library

TaskSchedule.Schedule Property

This returns the schedule.

public Schedule Schedule {get;}

See Also

[TaskSchedule Class](#) | [ActionEngine.Api.Schedule Namespace](#)

API Class Library

TaskSchedule.TaskData Property

This returns the task data, which is the data passed into RunTask each time the scheduler initiates a call.

public string TaskData {get;}

See Also

[TaskSchedule Class](#) | [ActionEngine.Api.Schedule Namespace](#)